A STUDY ON OVERWEIGHT AND OBESITY AMONG ADOLESCENTS (10-19 YEARS) IN A RURAL AREA OF KANYAKUMARI DISTRICT

Dissertation

Submitted to

THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY

In partial fulfilment of the requirements for the award of the degree of

M.D. COMMUNITY MEDICINE

Branch XV

April 2016

CERTIFICATE

This is to certify that this dissertation entitled "**A STUDY ON OVERWEIGHT AND OBESITY AMONG ADOLESCENTS (10-19 YEARS) IN A RURAL AREA OF KANYAKUMARI DISTRICT"** is a bonafide work done by **Dr. VISHNU. G. ASHOK** during the period 2013-2016. This has been submitted in partial fulfilment of the award of M.D. Degree in Community Medicine Branch – XV by the Tamilnadu Dr. MGR Medical University Chennai.

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DECLARATION

I, Dr.Vishnu.G.Ashok here by submit the dissertation entitled **"A STUDY ON OVERWEIGHT AND OBESITY AMONG ADOLESCENTS (10-19 YEARS) IN A RURAL AREA OF KANYAKUMARI DISTRICT"** done in Partial fulfillment of **M.D.Community Medicine [Branch -XV]** in Sree Mookambika Institute Of Medical Sciences , Kulasekharam. This is an orginal work done by me under the guidance and supervision of Dr.K.Usha Devi and Dr .Jayasree.C.S

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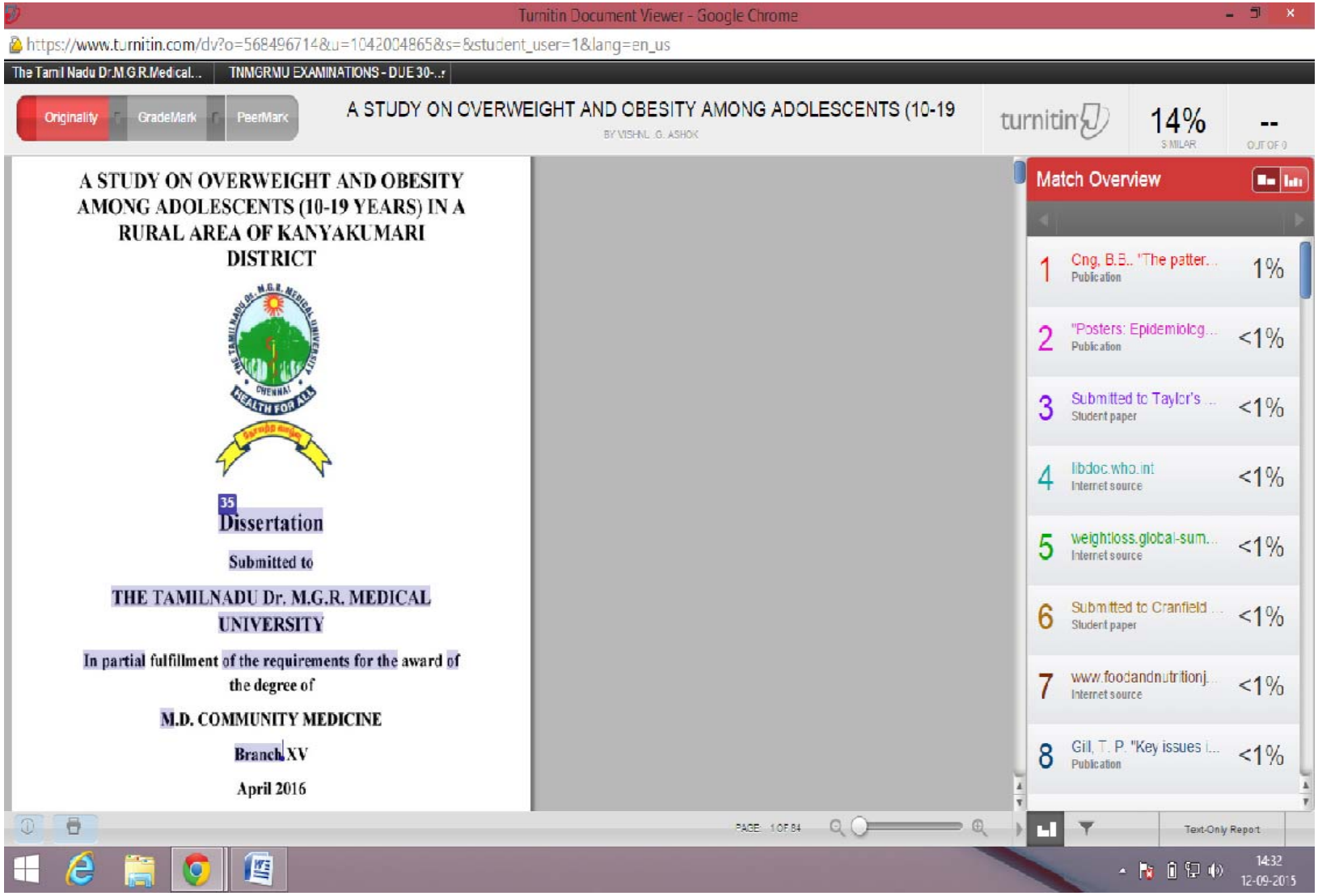
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CONTENTS

A STUDY ON OVERWEIGHT AND OBESITY AMONG ADOLESCENTS (10-19 YEARS) IN A RURAL AREA OF KANYAKUMARI DISTRICT

ABSTRACT

Background: Overweight and Obesity has emerged as one of the most important public health problem escalating to be a global pandemic. .It is the most prevalent form of malnutrition and it is a global concern. **Aims &Objectives**: To find out the prevalence of overweight and obesity among adolescents in a rural area of Kanyakumari district and to find out the association between overweight and obesity with its modifiable and non modifiable risk factors. **Subjects and Methods**: The study was conducted at Thiruvattar block . It is a cross sectional study where 400 adolescents of both sexes were included. The study involved administration of pretested questionnaire, measurements of anthropometry, waist and hip circumferences**. Results**: The Prevalence of Overweight and obesity was 8.5% and 5.8%. The factors which were significantly associated with overweight and obesity are sex, type of school, socio economic status, educational status, skipping breakfast, food in between the meal, waist hip ratio and physical activity. **Conclusion:** Overweight and obesity are more common in females, high socio economic status, those with inadequate physical activity and who are consuming junk foods.

Key words

Adolescent ,Overweight , Obesity , BMI , Waist Hip ratio , Physical activity , Diet

1. INTRODUCTION

Overweight and Obesity has emerged as one of the most important public health problem escalating to be a global pandemic[1]. The first of the diseases of civilization to appear is obesity. It is the most prevalent form of malnutrition and it is a global concern [2]. Obesity is a worldwide problem affecting all levels of society and thus is being described as a global epidemic.

World Health Organization (WHO) defines Overweight and Obesity as abnormal or excessive fat accumulation that may impair health[3].The practical and clinical definition of Overweight and Obesity is based on Body Mass Index (BMI). Over weight is defined as BMI over 25 kg/m^2 and Obesity as BMI over $30kg/m^2$.[3]

Obesity is also recognized as a major problem in both developing and developed countries. Since 1980, worldwide obesity has more than doubled. In 2014, over 1.8 billion (39%) adults of age 18 years and above, categorized as overweight. Of these obesity accounts for more than 500 million (13%). Majority of the population of the world live in countries where overweight and obesity is a major concern of morbidity than underweight. Once overweight and obesity was considered a high-income country problem; now it globally affects countries with low- and middle-income, particularly in the urban areas. The incidence of overweight and obesity in developing countries is 25-35% higher than in developed countries.[4]

Globally India was recently ranked third place in obesity.[5] There are around 30 million obese people in India and more who are overweight. One in five Indians are either overweight or obese. The latest NFHS[6] found that 8-10 % of males and 14-16% of females

are overweight and obese. In India, Punjab ranks first with 30.35% male and 37.5% female are being overweight or obese. This number seems a small size in the International Population because of the sheer size of India's Population. Tamil Nadu ranks fifth among Indian states with overall prevalence of 19.8% in Males and 24.4% in females. Over weight and Obesity may develop at any age in either sex. Since adolescent is a period of transition from child hood to adulthood, overweight and obesity is confined not only to adults but also being reported among the children and adolescents of both sexes of developed as well as developing countries[7].

Over weight and Obesity is due to chronic imbalance between actual energy needs and energy intake of body[8]. The etiology of this is multi factorial. Both Overweight and Obesity is a consequence of epidemiological and nutritional transitions due to mechanization of jobs and transportation, availability of energy dense and packed foods, nutrient poor diets, reduction in physically active skills , introduction of sedentary pass times like television. The most important significance of childhood obesity is its tenacity into adulthood with all health hazards.

Obesity is not an existing lethal disease by itself, but a major contributor to the global burden of many chronic diseases. It is associated with five out of ten major causes of morbidity and mortality such as type 2 diabetes mellitus, hypertension, coronary heart disease, cerebrovascular disease and cancer[9]. Besides this obesity also serves as a risk factor for many diseases like cholestasis, hypercholesterolemia, psychiatric disorders and painful joint conditions[9].

Many nutrition based studies which were conducted in India focused much on Under Nutrition rather than Overweight and Obesity. As of now there are only limited studies among adolescents on obesity in South India and no studies are available for Kanyakumari district. So I intend to estimate the prevalence of Overweight and Obesity and the associated factors among adolescents in a rural area of Kanyakumari district. The study will provide baseline data on magnitude of the problem and helping identification of priority areas focused by policy makers in setting up priorities in implementing programmes and aim at controlling, thus prevents further complication arising out of overweight and obesity.

2. AIMS & OBJECTIVES

1. To find out the prevalence of overweight and obesity among adolescents in a rural area of Kanyakumari district.

2. To find out the association between overweight and obesity with its modifiable and non modifiable risk factors.

3. REVIEW OF LITERATURE

According to World Health Organization, adolescent is considered as a person between 10-19 years of age[10]. It is a period of transition from childhood to adulthood. The characteristics during this phase are rapid physical, biological and hormonal changes leading to psychosocial behavior and sexual maturation between the ages of 10-19 years[11]. Approximately there are 1.3 billion adolescents in the world, comprising 18 per cent of the world population[12]. The vast majority of the global adolescents' population (87%) live in developing countries. India has the most population of adolescents in the world, 243 million adolescents live in India[13].

3.1 AN OVERVIEW OF OVERWEIGHT AND OBESITY

Obesity is defined as condition with excessive accumulation of fat in the body that inadvertently affect the health and wellbeing[3]. This excessive fat accumulation is due to increase in the fat cell size or number or a combination of these. Weight in excess of average or ideal weight for a given age , sex and height termed as Overweight .The Word Obesity comes from *Obesus* which mean stout fat or plump and *edre* means to eat[14]. This obesity was a status symbol in European cultures. Obesity was depicted as a symbol of wealth and high social being in cultures likely to suffer from food shortage.

Globally Overweight and Obesity is rapidly becoming a major public health hazard in most areas of the world. It is one of the major risk factor for life style diseases which are paradoxically coexisting with under nutrition in developing countries, thus increasing burden of chronic diseases include Diabetes Mellitus, Cardiovascular diseases, stroke, hypertension, Coronary heart diseases and asthma[15]. The increase in the body weight raises

the cost burden (medicines), decreases life quality, undue stress on the health care system and resulting in lowering of productivity due to disability, illness and premature mortality[16]. The incidence of malignancy of the breast, prostate, endometrial, colon, kidneys and gall bladder is doubled with increase in body mass index[17].

3.2 MAGNITUDE OF THE PROBLEM OF OBESITY

3.2.1 WORLD SCENARIO

Obesity is identified as a public health Problem that has raised concern worldwide. Until 1980 fewer than one in ten people were obese in world, in the following decades rates doubled or tripled and are continuing to grows.

In 2014, over 1.8 billion (39%) adults of age 18 years and above, categorized as overweight. Of these obesity accounts for more than 500 million (13%)[4].

According to WHO 22 million children below 15 years are overweight. Data from NHANES IV indicate that 20% to 24% of children aged more than five years are overweight and 9 to 13% children of the same age group are obese[18].

Among WHO regions overweight and obesity was most prevalent in Americas(61%,27%) and least in the South East Asian region (22%, 5%). According to WHO, more than fifty percent of the females in United States of America, Europe and Mediterranean regions were overweight. Approximately half of overweight females are obese (20-30% in Europe, 20-25% in the Mediterranean, 25-35% in the United States). Prevalence of overweight and obesity is double that of males in most parts of the world[19].

Over weight and Obesity are the fifth important risk factors for global deaths. It can be a major global epidemic among non communicable diseases observed in developing and developed countries. It can be called as New World Syndrome and is already creating a huge socio- economic as well as public health hazard in developing countries.

By 2020 over 40% of the children in the North American regions and Eastern Mediterranean Regions, 38% on the European Region, 22% in the South East Asian Region and 27% in the Western Pacific region are predicted to have increased body weight [19].

The total number of people with overweight and Obesity varies with changes in the environmental and behavioral factors which in turn are influenced by socioeconomic development and advanced technologies

In Developed Countries like USA the incidence was 35% in Boys and 35.9% in girls and similarly in United Kingdom it was 21.8% in boys and 26.8% in girls respectively. Janssen shows that prevalence of Overweight /obesity was high in countries in regions like North America, Great Britain, and Europe[20]. In most countries low physical activity levels were directly related to television viewing times in overweight compared to normal individuals. Catherine S. Berkey reported that higher body mass index among adolescents was associated with more time with television. Among girls high calorie intake and lower physical activity was associated with higher BMI [21]. In low-income countries total number of Overweight and Obesity was very high like Brazil with a prevalence of approximately 56 % and Chile of 63% respectively[22].

In United Arab Emirates one in Five children was either overweight or Obese, with a prevalence of 73.1%. Tarek Tawfik amin et al showed that skipping of breakfast at home ,

fast food consumption, less fruit intake , frequent intake of sugar and carbonated drinks were the indicators of overweight and obesity among the school going students in Saudi Arabia[23]. Abdulrahman O. Musaiger[24] proposed that the important factors determining obesity in Eastern Mediterranean region include: transition of nutrition, sedentary life style, high-income, status of marriage, a less duration of breastfeeding, intermittent snacking and avoiding breakfast.

Fig.1 PREVALENCE OF OBESITY AMONG MALES IN THE WORLD[22]

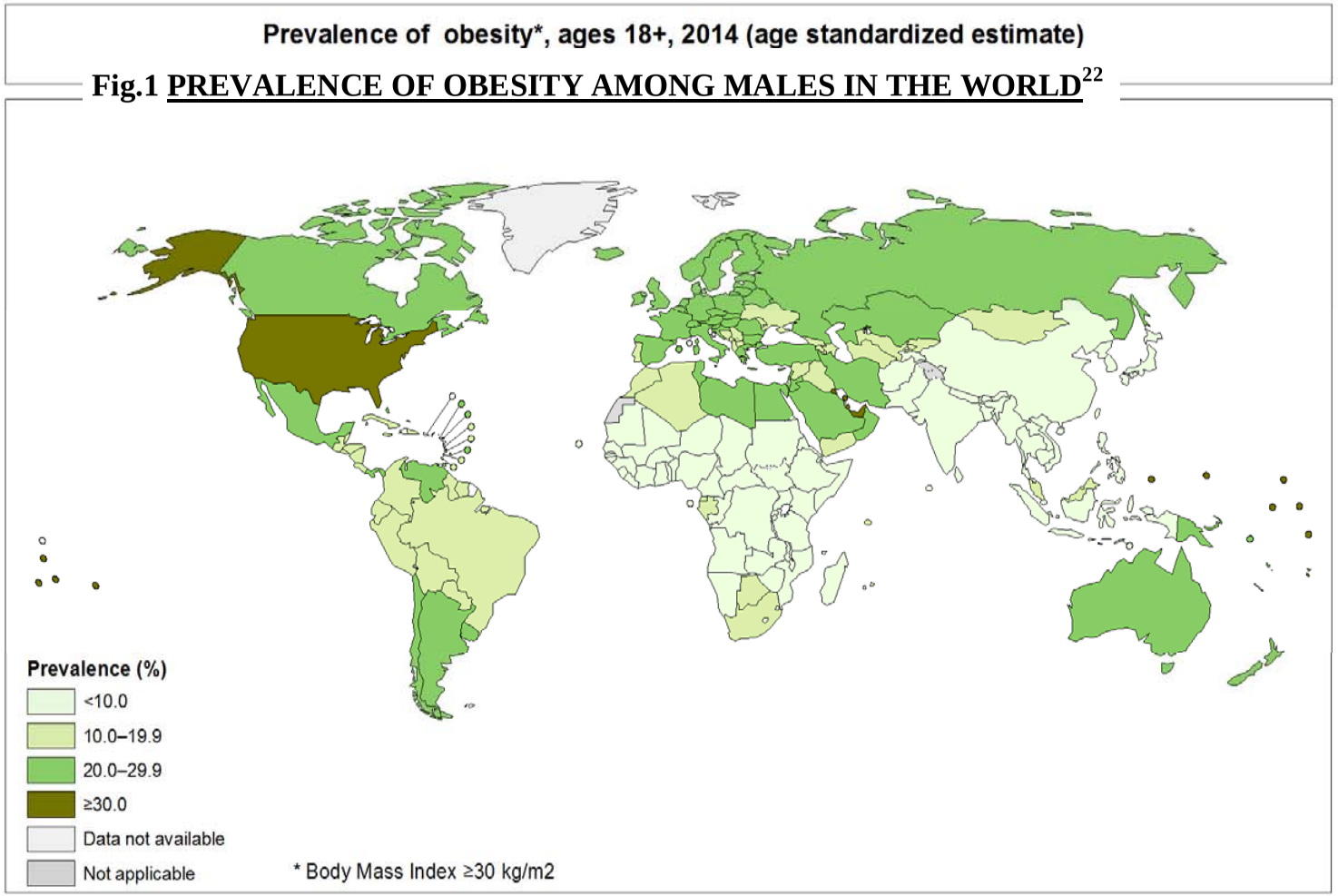
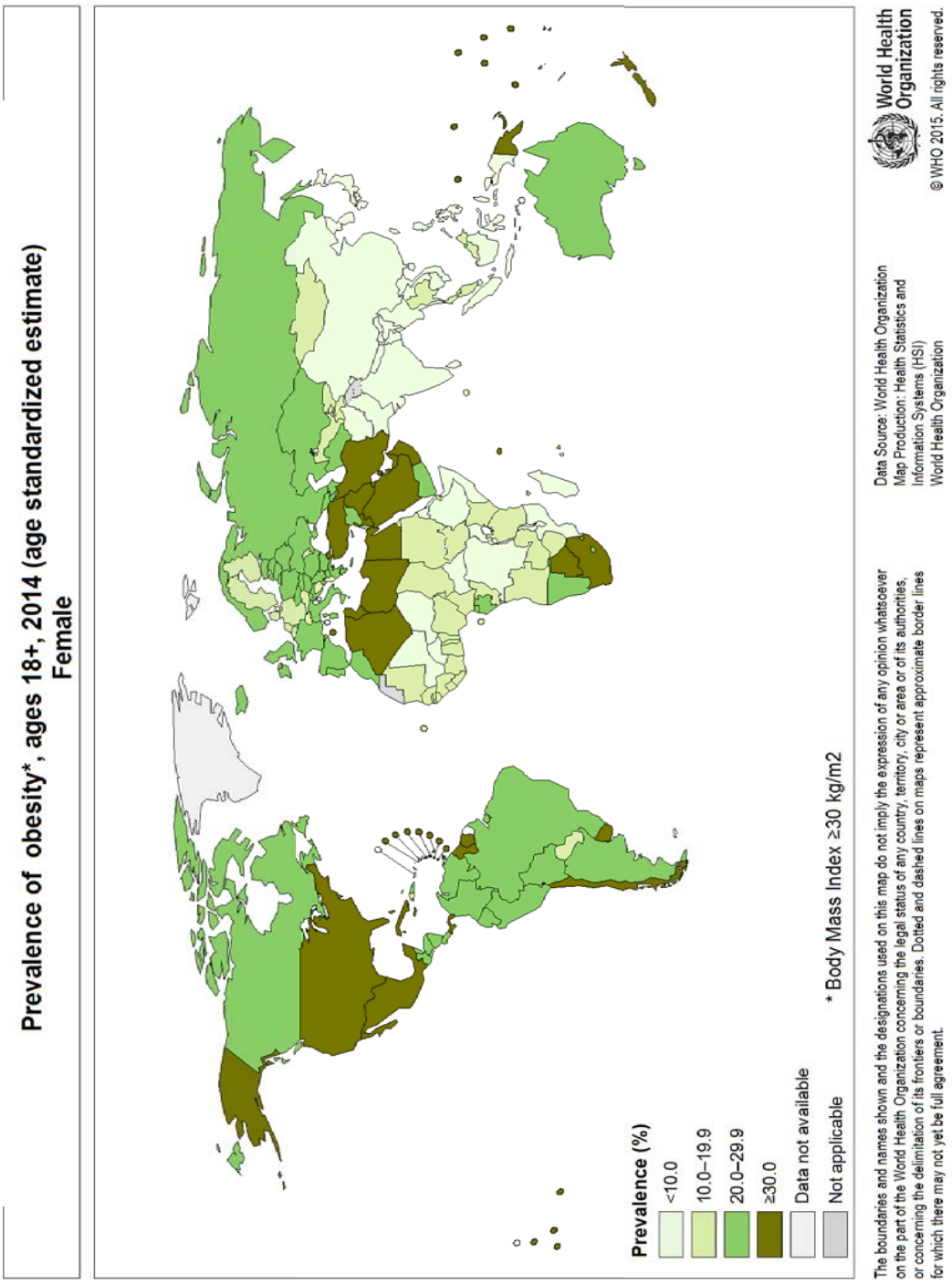


Fig. 2 PREVALENCE OF OBESITY AMONG FEMALES IN THE WORLD[22]



3.2.2 INDIAN SCENARIO

India is facing the Double Burden of Disease i.e. under nutrition coexisting with over nutrition. India was recently ranked third in Obesity[25]. Around 30 million people in India are overweight and one in five Indians are either overweight or Obese. The Last NFHS Survey in India during 2005-2006 found that 8-10% of males and 13-16% of females are Overweight /Obese[6].The obesity prevalence is increased in the females of age group between 15-49 years.

In India, Punjab ranks first with 30.3% and 37.5% overweight or obese male and female respectively. This proportion seems a small in the International Perspective, but the numbers are large because of the sheer size of India's Population. Tamilnadu, Goa, Kerala also have a high Prevalence of Overweight and Obesity[6] (more than 20%). Lower prevalence of overweight and obesity are seen in the North Eastern Regions of the India; prevalence of overweight and obesity in these areas was less than 5%. The total number of overweight and obesity has raised over the past ten years in India, but in some high-income groups it has attained a drastically dangerous level.

In India limited literature is available on Prevalence of Adolescent Obesity.Now shift towards overweight and obesity in India, which may be due to various factors like change in food habits , cultural practices , life styles and economy. For the past several decades under nourishment has been the focus of public health interventions on child hood obesity and overweight[26].

In India Urban areas are facing high prevalence of Overweight and Obesity[27]. Goyal et al[28] in 2011 conducted a study on factors influencing overweight and obesity in prone adolescents in Gujarat reported as total number was found to 6.55% and 13.9%. In 2012 Parekh et al revealed that the prevalence of obesity among adolescents in high-income and low-income regions of Gujarat was 12% in low-income areas and 14.6% in high-income areas. Khadilkar et. al[30] from Pune observed the prevalence of obesity and overweight in adolescents to be 8.1% and 25% respectively.

Kapil et al[31] in 2001 conducted a study among opulent school going adolescents in capital city of India and showed that percentage of total number of overweight/obesity was about 24% and 6%, In 2011 Stigler et al[32] reported a combined overweight/ obesity prevalence of 16.5 to 17% in Delhi. Kaur et al[33] found out that the prevalence of obesity as well as overweight to be 12.9% and 9.30% in Delhi.

The surveys conducted among adolescent From Bangalore and Hyderabad showed a very high prevalence, ranging from 11% to 25% [30,34,35,36,37]. Seema Jain et al[38] in 2010 conducted a similar study showing the prevalence to be 19.7% in Girls and 18.36% in Boys.

Fig.3 PREVALENCE OF OVERWEIGHT / OBESITY IN INDIA[6]

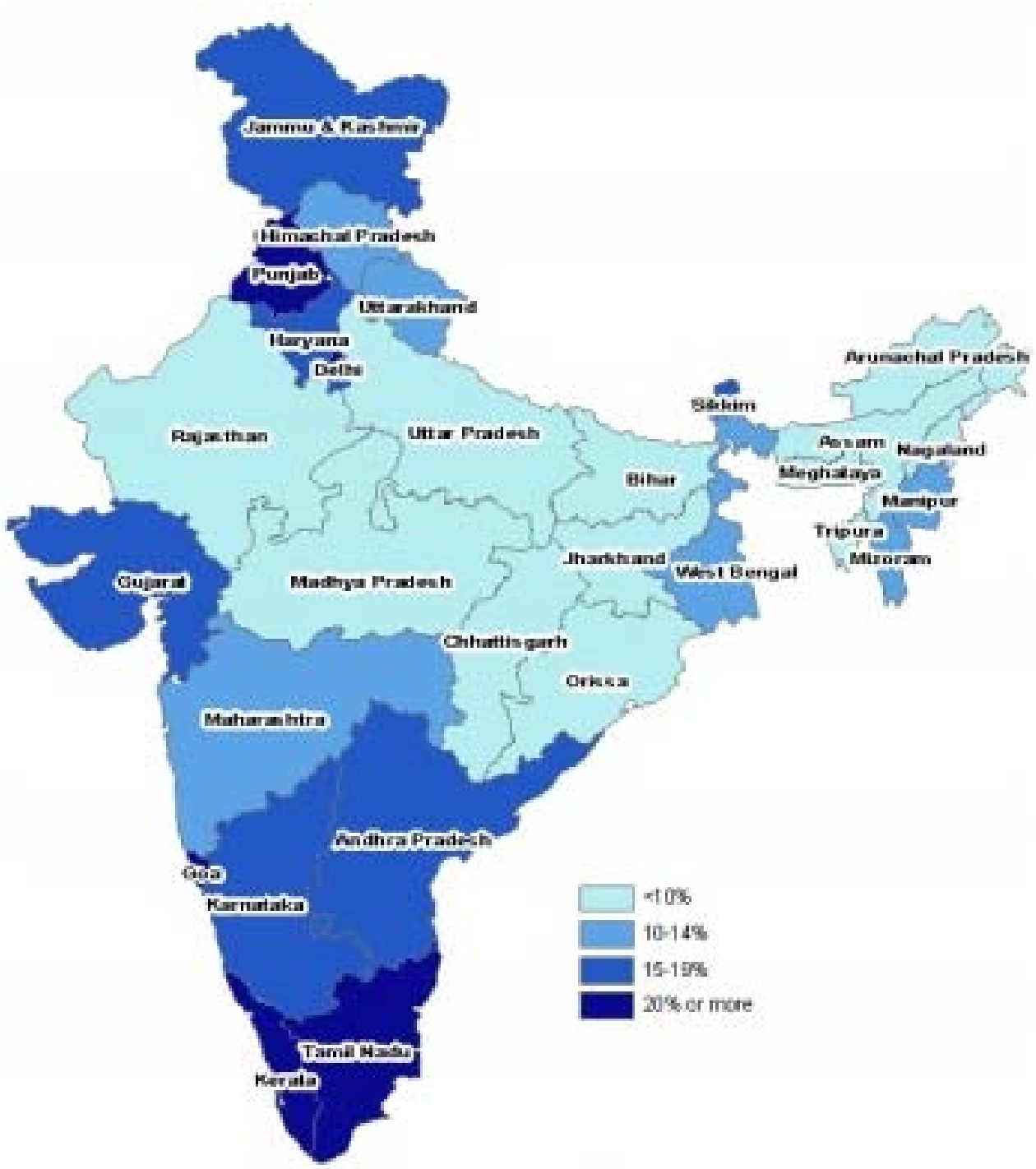


Table.1 STATES WITH HIGH PREVALENCE OF OVERWEIGHT & OBESITY[6]

STATES	PREVALENCE OF OVER WEIGHT& OBESITY	
	WOMEN(15-49)	MEN(15-49)
PUNJAB	37.5%	30.3%
KERALA	34%	24.3%
NEW DELHI	32.9%	24
GOA	27%	20.8%
TAMILNADU	24.4%	19.8%

3.2.3 SITUATION IN TAMILNADU

Very Few studies are available depicting the prevalence of Overweight/ Obesity in Tamilnadu. Most of the studies potrays BMI classification of western Population and no studies available on Kanyakumari District.

According to NFHS, prevalence of Overweight and Obesity is 19.8% in Males and 24.4% in females[6]. In Tamil Nadu, Non communicable disease report[39] displays overweight prevalence in the high-income population was 30-35% and the trend was ascending with age (13.9% in 15-24, 34.9% in 25-34, 38.9% in 35-44, 42.9% in 45-54 and 40.9% in 55-64). Total number among rural population found to be 15% and it was varying with age (5% in 15-24 to 19% in 55-64 age group).The survey concluded with a response rate of 36% in females and 27% in males and shown an ascending trend with age. The studies conducted

considering the literacy level concluded with a prevalence rate of 25% in illiterate to 38% in college level. In studies performed considering occupational level, there was increased prevalence in upper class (42%) followed by service (40%) and others (37%). Studies show decreased prevalence of 32% in farmers.

Sonya Jagadesan et al[40] in Chennai done a study on occurrence of Overweight and Obesity in School Children and Adolescents reveled similarly in a study conducted by Khadilkar[41] in Chennai which showed the prevalence of 21.2%. Ponni Syamala et al[42] studied about the health status of adolescents in selected districts of Tamilnadu revealed that Coimbatore had a high prevalence of obesity (23%) compared with Other Districts (Madurai-17% , Salem 22% Thiruchirapalli-20% and Tirunelveli 18.1%)

3.3 MEASUREMENT OF OBESITY [43]

Human Body is composed of four chemical groups –Water, Protein, Mineral and Fat. One needs techniques and standards for quantitating body fat to determine whether a person is obese or simply - overweight .There are several Methods for estimating body fat and its distribution. Methods of Measuring Overweight and Obesity is Divided into two types. Direct and indirect Methods. Direct measures cannot be done under normal circumstances. Investigators have used indirect methods for measuring body composition and estimating the percentage of fat.

Table.2 Methods for estimating body's fat distribution as listed below

Height and weight
Skin folds
Circumferences
Density Immersion.
Plethysmograph
Heavy water Tritiated Deuterium oxide
Potassium isotope
Conductivity, total body electrical
Fat-soluble gas
No Computed tomography
Ultrasonography
Neutron activation Magnetic Resonance

Each of the above Methods has its advantages and disadvantages. For Most Epidemiological studies Height , weight ,circumferences(waist ,hip , mid arm) , ratios (waist :hip , brachia: femoral) and skin folds (biceps , triceps , sub scapular etc) are used. Body Mass index and waist: hip ratio are the anthropometric indices used in this study.

3.3.1 Body Mass Index (BMI)

It is also called index of Quetelet. In the early 18th century, Quetelet described a tool for assessing obesity at population level. It gained popularity since then because the tool was found to be very quick, easy, cost-effective and non-interventional method of measuring increased body fat. Body mass index is an attractive measure because it is an

easy, cheap and non-invasive means of assessing excess body fat. BMI is simple rapid and in expensive, age independent and not gender specific[44]. BMI is significantly correlated with the total fat content of the body. BMI, which is determined as ratio of weight (kg) and height in (m^2) .The height and weight are crude indices of the impact of many environmental factors, (including diet and infections) on the genetic growth potential of the individual over short and long periods of time, and affect man health outcomes of children and adults

BMI = $\frac{\text{Weight in Kilograms}}{\text{Height in Meters}^2}$

Limitations

1) Over estimates accumulation of lipids in the body in well built persons or edema.

2) Body fat distribution cannot be assessed.

3.3.2 Waist Circumference and Waist Hip Ratio[45]

Obesity is classified into android and gynoid type, based on the fat distribution in the body. Body fat is centrally distributed in android obesity and evenly distributed in gynoid type. Those with android type carry higher health risks compared to gynoid type. Abdominal fat is classified in to three types they are visceral, retroperitoneal and subcutaneous, of which visceral component of abdominal fat is strongly correlated with risk factors. Increased total abdominal fat itself is an independent risk factor even when the BMI is not increased. Waist circumference is a practical indicator of visceral abdominal fat

Waist Circumference is related to fat mass and an indicator of deep adipose tissue. it is unrelated to height and it is measured at the midpoint between the lower margin of the last palpable rib and top of the iliac crest. Waist circumference of ≥90 cm for men≥80 cm in women denotes abdominal obesity.

Hip circumference is measured at the largest circumference over the gluteal region. A high Waist : Hip ratio more than 0.90 in males and more than 0.85 in females indicate fat accumulation in the abdomen.

3.4 CLASSIFICATION OF OBESITY[46]

Classification of Overweight and Obesity is valuable for meaningful comparison of weight status within and between identification of groups at increased risk of morbidity and mortality and to set priorities for interventions at individual and community level for evaluating intervention activities

The WHO obesity task force appointed an expert committee on the screening, evaluation, and management of overweight and obesity in adults. In 1993, the committee meeting proposed BMI between 25 and 29.9 kg/m2 is classified as Overweight, 30 to 34.9 kg/m2 for class I obesity, and 35 to 39.9 kg/m2 as class II obesity and BMI ≥ 40 as Class III (extreme) obesity.

3.4.1 WHO CLASSIFICATION OF OVER WEIGHT & OBESITY BASED ON BMI[46]

Fig.4

Classification of overweight and obesity by BMI, waist circumference, and associated disease risk

			Disease risk* (relative to normal weight and waist circumference)	
	BMI (kg/m^2)	Obesity class	Men ≤ 40 in (102 cm) Women ≤ 35 in (88 cm)	>40 in (102 cm) >35 in (88 cm)
Underweight	<18.5			
Normal†	18.5 to 24.9			
Overweight	25.0 to 29.9		Increased	High
Obesity	30.0 to 34.9	I	High	Very high
	35.0 to 39.9	II	Very high	Very high
Extreme obesity	≥40	IIII	Extremely high	Extremely high

3.4.2 WHO EXPERT CLASSIFICATION FOR ADULT ASIANS[46]

According to WHO Expert consultation, Body fat is in a higher percentage in Asians compared to that of white people of the same age, sex and BMI. In Asians there is an increased risk associated with Obesity which occurs at Lower BMIs. There are several studies showing that migrant Indians and urbans has more prevalence of metabolic syndrome and heart diseases compared to Caucasians.[46]

The provisional recommendation for Asia Pacific Region published in February 2000 by WHO is Overweight > **$23kg/m^2$** and obese at BMI >**$25kg/m^2$** .

3.5 PHYSIOLOGICAL REGULATION OF BODY WEIGHT

When energy intake is greater than energy expenditure a positive energy balance occurs in the body [47]. The body weight is governed by endocrine as well as neural components which finally balances the energy intake and expenditure. The role of the

regulatory systems are very important because a minor imbalance can pose a major concern in body weight homeostasis. Whenever expenditure outweighs intake it will lead to a negative energy balance.

3.5.1 Intake of Energy

The sum total of energy intake is defined as the the total energy consumed in either solid or liquid physical states that can be biotransformed inside the body. Out of these, fat provides the most energy per unit weight, protein and carbohydrate provides only half of that.

3.5.2 Expenditure of Energy

It comprises of :-

a. Metabolic rate of a resting person.

b. Cost of energy in biotransformation and assimilation of food.

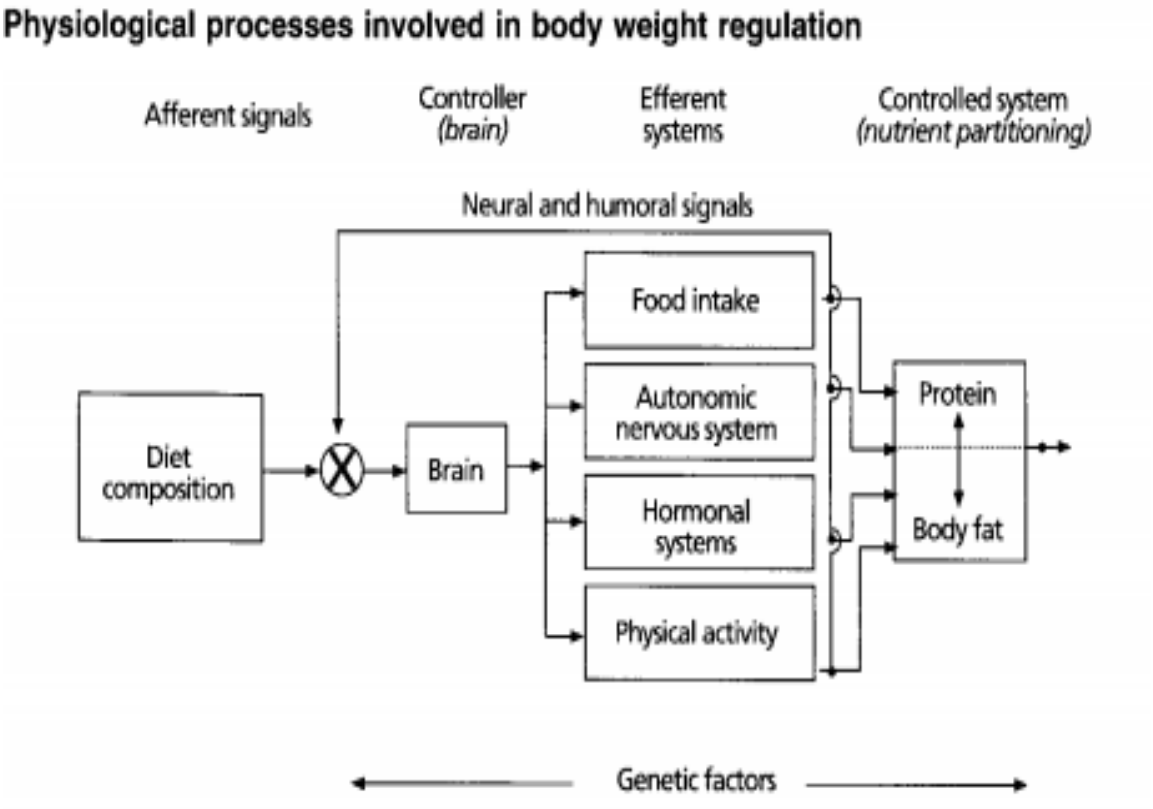
c. Exercise induced production of heat.

d. Heat production due to calorie intake.

The resting metabolic rate accounts for approximately 59% of daily energy expenditure, the dietary heat-production response for around 11% and the remaining 30% is contributed by exertion in manual laborers. The outflow of energy rises and the proportion of energy spent during exertion may ascend to about fifty percent. Physical activity is the key variable of output in energy expenditure[47].

The body weight is governed by endocrine as well as neural components which finally balances the energy intake and expenditure. The role of the regulatory systems are very important because a minor imbalance can pose a major concern in body weight homeostasis. A homeostatic imbalance of 0.4% will lead to a 10-kg increase in body weight. The calorie counting and physical activity relationship cannot be monitored here. The body weight homeostasis is altered by hormonal and neural influences. Any type of forced feeding or deficiency of food can lead to physiological changes in body weight with undue effect on appetite and energy expenditure. Sedentary life style and excess junk foods consumption permits a dangerous non-compensatory development of obesity. An endogenous hormone called leptin (which is derived from fat cells) regulates the appetite, energy expenditure, and neuroendocrine functions[48]. It acts on the satiety centre in the brain

Fig.5 PHYSIOLOGICAL PROCESSES INVOLVED IN BODY WEIGHT REGULATION[49]



3.5.3 DYNAMICS OF WEIGHT GAIN

Weight gain process can be classified into three phases[49].

(i) Balanced state of energy and weight – Preobese phase.

(ii) Gain in weight due to high energy intake than expenditure - Dynamic phase

(ii) Weight is more than the pre-obese phase, energy balance is regained -Obese phase.

The second phase of weight gain process is associated with immense variations in body weight. This is due to some conscious efforts to lose weight done by the person during this phase. Whenever the final phase of weight gain process has occurred, the newly attained weight will get apparently defined. Now, obese individuals will be non-responsive to underfeeding.

3.6 FACTORS PROMOTING THE DEVELOPMENT OF OVERWEIGHT AND OBESITY

In simple terms consequence of energy imbalance is called obesity, energy intake exceeds energy expenditure over a considerable period. A wide variety of important and complex factors leads to positive energy balance. Overweight and obesity is the interaction between a number of these factors, rather than the influence of any single factor responsible for the condition. The major factors that increase the prevalence of obesity globally is the increasing proportion of dietary fat, energy density of the diet, reductions in the level of physical activity and the rise in the sedentary behaviour.

3.6.1 Dietary Factors

High carbohydrate-rich diet is directly proportional to gain in weight [2]. Vadera et al[50] revealed that there was a positive correlation with habit of snacking and weight gain. Dorothy Jaganathan[51] studied about the dietary pattern of obese children in erode showed that consuming fast food was one of the important contributing factors of overweight and Obesity.

3.6.1.1 Macronutrient Composition

Dietary fat has a higher energy density than other micronutrients like alcohol, protein and carbohydrate. This is largely responsible for overeating effect or passive overconsumption, experienced by many people who consumes a diet rich in fat. The pleasant feeling in the mouth when fatty foods are consumed compels the subject to take a meal rich in fat content. In practice our body fails to compensate for excess intake of fatty food because the influence of fatty food over the control of the appetite proves to be very weak. In contrast to fatty foods, fibre-rich diet can induce a feeling of fullness due to its high density and can check the consumption of huge amount of energy. [52]. Krutarth R Brahmbhatt et al [53] showed that over weight and obesity had significant association with high intake of junk foods.

3.6.1.2 Food Palatability and Pleasure

An another important factor determining a positive energy balance is the palatability of food consumed. Food palatability directly increases not only the volume of food consumed but also the frequency of consumption. It can lead to a feeling of hunger

during and in between the meals. A fatty meal gives a feeling of satisfaction and enjoyment due to its palatability. Adding sugar in the diet increases the taste but sweetened foods are rich in fat content and thereby increases the energy consumption also.

3.6.1.3 Daily Eating Pattern

Regular intake of (high fat) snacking has been associated with increased overall dietary intake in affluent societies. Breakfast skipping may result in overconsumption at the end of the day. Many people exhibits "night-eating syndrome" that may lead to increase in energy consumption during night and inturn paves way for development of obesity. Jonas J Thompson-McCormick et al[54] studied the prevalence of overweight/ obesity was more in those who skip their breakfast. Monika Arora et al [55] in Delhi conducted a study on school aged adolescents found that the overall prevalence of overweight/obesity in people consuming breakfast daily(14%) vs those who never consume breakfast(22.9%).

3.6.1 PHYSICAL ACTIVITY PATTERNS

It is a global term referring to any bodily movement produced by skeletal muscle that results in a substantial increase over the resting energy expenditure[49]. It is of divided into three major arms:-

a. Occupation - undertaken during the progress of work
b. Household chores - undertaken as part of day to day living
c. Leisure time physical activity- activities undertaken in individual's free time.

Physical activity and BMI are inversely related to each other. Weight gain is directly related to our physical activity and life style. More physical exertion will lead to

less weight gain and a sedentary life style will lead to more weight gain. In a study conducted in Brazil by Maria Alayde Mendonça da Silva et-al show that inadequate physical activity was seen in 93.5% of the individuals. Sudeepa Dhanpal et al [57]done a study on physical activity among secondary school children in Bangalore found low level of physical activity in most of the children.

The patterns of Physical activity have an important influence on the physiological regulation of body weight. They affect total energy expenditure, fat balance and food intakes. Energy expenditures increase from basal levels immediately after the initiation of physical activity, and the increase persists for the duration of activity. The total amount of energy expended depends on the characteristics of the mode, intensity, duration and frequency of physical activity and of the individual performing the exercise

One of the most important adaptations to regular exercise is the increased capacity to use fat rather than carbohydrate during physical activity. These differences become considerable when the exercise is maintained over a longer period .The extent to which fat and carbohydrate contribute to energy metabolism depends on the intensity level of physical activity ; fat is preferentially oxidizes during low intensity activity and carbohydrate dominates at high intensity. Current recommendations state that children and adults should strive for at least 30 minutes daily of moderate intensity physical activity, Such as a two-mile brisk walk, that should make you feel warm and mildly out of breath. During moderate intensity activity, you should still be able to talk without panting in between your word

As a result of increase mechanization, the prevalence of physical inactivity is increasing in India, particularly in urban areas. M Shashidhar Kotian et al[58] in south

Karnataka conducted a study on the prevalence and factors of overweight/ obesity in school going children of adolescent age group depicted a high prevalence of obesity is due to decreased physical activity of less than one hour per day, viewing television for more than four hours per day, and consumption of chocolates daily. Similarly Tabassum Nawah et al[59] in Aligarh studied the behavioral factors on the occurence of Overweight/ Obesity in adolescents, have reported that the important factors of obesity are sleeping time and fast food. Kavitha Sree et al[61] in Madurai found that overweight and Obese children (10-15 years) had un healthy eating habits, decreased physical activities and increased sedentary behaviour which may be the major causative factors of overweight and obesity. Krutarth R Brahmbhatt et al[53] revealed that low level of physical activity was significantly associated with overweight and obesity.

3.6.2 EPIDEMIOLOGICAL DETERMINANTS OF OBESITY

3.6.3.1 Age

Overweight and obesity can occur at any age, increases with age. According to WHO 42 million children under the age of 5 were overweight or obese in 2013.Infants with excessive weight gain have an increased incidence of obesity in later stage of life. Adipose cells are formed early in the life and obese infants lays down more of hyperplastic obesity than the normal infant. Tamil Nadu Non communicable disease[39] report found that prevalence of overweight and obesity increases with age.

3.6.3.2 Sex

Women tend to gain more weight compared to men due to certain physiological factors. The females have more fat deposition than males. This is proposed to ensure their

reproductive capacity. In women, the Pear shape or gynoid obesity is more common, has fat distributed predominantly around the hip and thighs. In Males apple shape or android obesity is more common, has fat distributed mainly around the abdomen. Ambili ramesh[62] in 2012 studied about the prevalence of adolescent obesity among high school students of Kerala and showed that girls are more obese (2.86%) than boys (1.96%).According to Tamilnadu[39] state report and NFHS data shown that females are more obese than Males.

3.6.3.3 Ethnic Factors

Development of Obesity is susceptible in most ethnic groups of many industrialized countries and its Complications.eg: Australian Aborginals , South Asian Overseas.

3.6.3.4 Genetic Factors

Genetic Component is a part in the etiology of obesity. Falkner et al[63] shown that there is a correlation between weights of identical twins even when they reared in dissimilar environments. The Glutamic Acid Decarboxylase gene (GAD2) was first reported to be associated with obesity and feeding behaviors in morbidly obese adults and this result was subsequently replicated in obese children. Genes can directly cause obesity in disorders such as Bardet-Biedl syndrome and Prader-Willi syndrome.

3.6.3.5 Socio Economic Status

Socio economic status increases the changes in pattern of life with more reference to sedentary life style and fast food habits**.** Naresh et al[64] in Kanpur reported that Overweight and Obesity was high in high socio economic status (15.9%, 3.7%) than the low

socioeconomic status (6.8%, 1.7%). Dhurandar et al[65] in Bombay reported that prevalence of obesity was directly proportional to financial income and those subjects with a family history. Dorothy Jaganathan[51] studied about the dietary pattern of obese children in Erode showed that income of the family was one of important contributing factor of overweight and obesity.

3.6.3.6 Psychosocial Factors

Over eating may be a symptom of anxiety, frustration, depression and loneliness in childhood as it is in adult life. Disturbances in the mental make up proves to be an important factor in development of obesity.

3.6.3.7 Endocrine Factors

Over weight and obesity may be present in Cushing's syndrome, growth hormone deficiency.

3.6.3.8 Education

Education is inversely related to obesity. Anitha Rani[66] et al displayed a positive relationship between paternal, maternal education and overweight/obesity in school going children. The possible explanation for this association is due to that the high socio-economic status proves to be a measure of differences in dietary habits and physical activities. D.R. Bharati et al[37] in Wardha reported that overweight / obesity was significantly higher among children with educated parents of > 6th class or had service job or business. Kalpana et al in 2011[68] showed that occurence of overweight/ obesity are more in non-government schools compared with government schools.

3.6.3.9 Drugs

Use of certain drugs promotes weight gain eg: psychiatric / neurological drugs, oral hypoglycemic drugs, insulin and Steroids.

3.7 HAZARDS OF OVERWEIGHT/OBESITY

Overweight and obesity causes a large number of health problems, both independently and in association with other diseases, and are among the most significant contributors to ill health. Overweight and obesity is not an immediately lethal disease by itself, but these are the major contributor to the global burden of many diseases. It is associated with five out of ten leading cause of death and disability such as type 2 diabetes mellitus, hypertension and cancer[9], besides this obesity also serves as a risk factor for many diseases like gall bladder disease, hypercholesterolemia, mental health and orthopaedic disorders.

Table.3 Health Risk Associated With Obesity

INCREASED RISK	MODERATE RISK	MILD RISK
Type 2 Diabetes	Coronary Heart Disease	Cancer
Gall Bladder Disease	Hypertension	Polycystic Ovaria
Dyslipidemia	Osteoarthritis	Syndrome
Metabolic Syndrome	Hyper uricemia & Gout	Low Back Pain

3.7.1 Metabolic Syndrome

Metabolic Syndrome is associated with some major cardiovascular risk factors like overweight, hypercholestremia, insulin resistance and high blood pressure. Many studies showed that these risk factors are frequently encountered in obese adolescent children. Goodman et al[69] reported that there was significant correlation between obesity and development of the cardiovascular risk factors. The factors involved in the development of metabolic syndrome worsens with ascending age, sex or status of puberty.

3.7.2 Insulin Resistance and Diabetes

Increased insulin levels and resistance to insulin generally increases the body weight and vice versa.[47]. There is sufficient data to conclude that there is a positive relationship between insulin resistance and increase in fat deposited in the abdominal region. Evidence suggest that in 2025, type 2 diabetes associated with obesity will be the most common cause of newly diagnosed diabetes in adolescents. No longer type 2 diabetes mellitus is considered as a condition of middle aged adults because the number has drastically increased in adolescents with obesity. There is substantial evidence that cardiovascular complications are more common in people with type 2 diabetes and complications in kidney, eye are more in younger age group with type 1 diabetes. Ramachandran et al[69] found emergence of a growing prevalence of type 2 diabetes among urban Indian children with obesity Abhijit Mandal et al[70] showed that the prevalence of type 2 DM increases with increasing weight of the individuals. Generalised and central obesity are two of the interrelated risk factors associated with Type2 diabetes.

3.7.3 Diseases affecting cardiovascular system

Obesity adversely affects the cardiovascular system and contributes to the development of various disease conditions. Obesity affects the heart through its capacity to on known risk factors such as hyperlipidemia, increased blood pressure, impaired glucose tolerance, inflammatory markers, obstructive sleep apnoea / hypoventilation, and the hypercoagulable state, as well as through yet unknown mechanisms. The Framingham heart study ranked body weight as the third most important predictor for coronary heart disease among males after dyslipideamia. Raitakari[71] proved that there was significant positive association with increased carotid intimal thickeness with development of childhood overweight .

3.7.4 Hypertension

Over weight and Obesity promotes the risk of the development of hypertension. Both systolic and diastolic blood pressure increases with body mass index. Satyajit Bagudai[72] et al done a study on prevalence of obesity & hypertension in adolescent Shows that there was a significant association of hypertension in obese group in comparison to overweight & normal blood pressure group.

3.7.5 Dyslipidemia

It is common among obese people and it is characterized by raised plasma triglycerides and low density lipo protein and lower HDL concentrations. This metabolic profile is more common in abdominal obesity. Anoop Misra et al have done a study on

obesity and dyslipidemia in South Asians and have shown that obesity was one of the main risk factors for dyslipidemia.

3.7.6 Stroke

Obesity and overweight can lead to cholesterol deposition in the arteries leading to plaque formation. There is increased chance of the plaque-rupture and activation of the clotting system. This further leads to formation of blood clots that can disrupts the blood flow to the brain and may develop stroke. BMI can increase the incidence of cerebrovascular diseases like stroke.

3.7.7 Cancer

Overweight and Obesity is related to certain forms of cancer like rectum and colon in men and gall baldder, biliary passages, cervix, endometrium , uterus ,breast among women. Calle et al[74] revealed that In both males and female, higher body mass index was also positively associated with increased rates of death due to malignancies of the esophagus, colon and rectum, liver, gallbladder, pancreas, and kidney.

3.7.8 Endocrine Disturbances

Significant associations are seen in reproductive endocrinology between abdominal obesity and ovulatory dysfunction, hyper androgenism and hormone sensitive carcinomas .Polyscystic ovary syndrome is the most common endocrine disorder of reproduction associated with moderate obesity.

3.7.9 Gall Bladder Diseases

Gall stones occur 3-4 times more in obese individuals , in both sexes and all age groups are susceptible .Truncal obesity is more often linked with higher risk.

3.7.10 Psychosocial Abnormalities

Obesity is also associated with depression. Adolescent obesity can lead on to depression in later stages. Among males truncal obesity is associated with high prevalence of depression. Obesity induced depression is more common among females

3.8 MANAGEMENT OF OVERWEIGHT AND OBESITY

Since Overweight and Obesity is an emerging epidemic and significant public health problem its prevention and control strategies are important. The health consequences of obesity are the result of the cumulative metabolic and physical stress of excess weight over a long period and may not be full reversed by weight loss.

3.8.1 STRATEGIES IN OBESITY MANAGEMENT[47]

3.8.1.1 Prevention Of Weight Gain

It includes selective prevention which is directed at high – risk individuals and targeted prevention for those with existing weight problems and those at a high risk of diseases associated with overweight.

3.8.1.2Promotion of weight maintenance

Long term weight maintenance is an important criteria of all weight management programmes and is not only relevant to those who have recently lost weight.

3.8.1.3 Management Of Obesity Co morbidities

It can improve health outcomes regardless of whether or not substantial weight loss is achieved.

3.8.1.4 Promotion of Weight loss

Moderate but sustained weight loss highly advantageous

3.8.2 Public Health Approach In Prevention Of Overweight and Obesity

Since obesity is a complex and multi factorial condition it is very difficult to apply the traditional method of prevention like Primary ,secondary and tertiary in most scenario. Recently an alternative way of classifying preventive interventions has emerged which is more appropriate to chronic multi factorial condition like obesity. The Three levels of Prevention are

3.8.2.1 Universal / Public Health Prevention[49]

Whatever may be the current level of risks public health interventions are directed at population or community levels. Aim of this prevention is to stop the increase in the prevalence , reverse it and reduce the mean weight of the population , reduce the prevalence of obesity related illness, improvement in general diet. It is the most cost effective form of public health intervention

3.8.2.2 Selective Prevention

Selective prevention is aimed at high risk individuals. These are people who are at an increased risk of developing obesity or overweight due to various factors like biological ,

genetic etc. This prevention strategy can be initiated through schools, colleges, work places, community centers and primary care or through any appropriate setting that allows access to high risk groups

3.8.2.3 Targeted Prevention

In this type of prevention individuals who are already overweight / obese or those with biological markers for high fat storage are targeted. The main objective of targeted intervention is to prevent further weight gain, to reduce the number of people who develop obesity related co-morbidities. Patients recruited for target prevention already have some weight related disorders such as CVD, NIDDM and arthritis and require intensive individual or small group preventive intervention.

3.8.3 OTHER MEASURES

3.8.3.1 Increasing Physical activity

Interventions aimed at increasing community-wide levels of physical activity are an important means of preventing further increases in the average BMI of a population. Physical active children remain active in adult life. So that encouraging young children to take part in variety of general activities may be especially important. Physical activity is important for the development of healthy musculoskeletal system. It also helps in maintaining the healthy body weight and healthy cardiovascular system.

3.8.3.1.2 WHO GLOBAL PHYSICAL ACTIVITY RECOMMENDATION FOR CHILDREN AND ADULTS[75 76]

Among Children and young adults physical activity happens in the context of family , school and community activities like games , sports , chores , physical education and recreation. World Health Organization recommends cumulative period of at least 60mins of moderate-vigorous activity daily for children and adolescents between the age of 5-17 years. Most of which should be aerobic .Vigorous activity should be included at least thrice a week

For adults WHO Recommends at least 150 minutes of moderate or 75 minutes of vigorous physical activity in a week or a combination of both

3.8.3.2 Change in quality of diet

The age group targeted health promotion strategies should be adopted .When diets are based essentially on unrefined local foods and its contain a suitable proportion of cereals , pulses and vegetables , there is less likelihood that their energy density will be appropriate . Increasing intake of fruits and vegetables and reducing intake of junk foods helps to maintain ideal body weight.

National Nutrition Programmes in many countries (Finland, Norway, New South Wales initiative in Austaralia) national nutrition programmes have also been successful in achieving a small reduction in the intake of total fats. Norway and Finland has succeeded in fat reduction by community campaigns.

3.8.3.3 Family –based Programmes

Families can have a strong influence on various factors that lead to obesity. Life styles can bring about a significant reduction in the prevalence of obesity. Educating the parents on healthy eating and by targeting the family not only the individual at risk but also the others will be benefited.

3.8.3.4 School-Based Programmes

The introduction of obesity-prevention programmes in schools is very important because much of a children eating and exercise take place in this setting. The School health programmes can identified Children at risk of obesity. Inclusion of regular physical education training programmes as part of curriculum can bring about reduction in the overall prevalence of child hood obesity in the community .But in today's competitive environment physical education is often sacrificed for academic achievement.

3.8.3.5 Primary –Care –based Programmes

The delivery of obesity management programmes through primary care remains underutilized and undervalued. Regular home visits by health workers provide an excellent opportunity for assessment of problem, health education and monitoring.

4. MATERIALS & METHODS

4.1 STUDY DESIGN

The study was done as a cross- sectional study

4.2 STUDY SUBJECTS

Adolescents aged 10-19 years of both sexes

4.3 STUDY AREA

Study was conducted in Thiruvattar block area of Kanyakumari District.

4.4 STUDY PERIOD

The Study was conducted from March 2014- May 2015

4.5 SAMPLING METHOD

Multi Stage Random Sampling.

4.6 SAMPLE SIZE

Based on a study conducted by Ponni syamala[42] et al about health status in selected districts of Tamilnadu had shown that prevalence was 18% in Thirunelveli, 23% in Madhurai, 17% in Thiruchirapalli, 22% in Salem. Therefore considering the average prevalence as 20 sample size was calculated as.

$$n= 4pq/d^2$$

Where p = 20% (prevalence of overweight / obesity)

q = 100-p

d^2 = relative error (20% of p) = $(20\times 20/100)^2$

by substituting the values in the above equation

$n = 4\times20\times(100-20)/4^2$

n= 400

4.7 SAMPLE SELECTION

First stage, out of the 9 blocks in Kanyakumari district, by lot method, the sixth block (Thiruvattar block) area was selected. The list of all village panchayats were obtained from Thiruvattar Block office.

Second Stage by simple random sampling five village panchayats in the block area was selected. The selected village panchayaths are Aruvikkari, Cherukole, Kumarnkudi, Pechiparai, Yettacode.

Third stage – Study subjects were recruited by house to house visit. Of the selected village panchayats, all the streets and roads were listed out and allotted numbers were given .Using this eight streets or roads were selected randomly using lot method. Starting from the first house each house was visited and adolescents present were invited to present in the study.10 adolescents were included in the study from each road or street. If the end of the road or street was reached without finding 10 adolescents the house visit was continued into the adjacent street or road.

4.8 INCLUSION CRITERIA

Adolescents aged 10 -19 years of both sexes.

Permanent residents of the selected area.

4.9 EXCLUSION CRITERIA

Adolescents who are diagnosed any chronic diseases / any hospitalization within 6 months.

Those who are on antipsychotic drugs / anti depressant drugs / hormone therapy.

Those who are absent on all the 3 occasions of our visit.

4. 10 PARAMETERS MEASURED

Height

Weight

Body Mass Index

Waist Circumference

Hip Circumference

Waist Hip Ratio

4.11 DATA COLLECTION

After getting informed consent from the parents physical examination for the adolescents was done for measuring height, weight, waist and hip circumferences. For female adolescents trained lady health assistant recorded the waist and hip circumferences. All the questions were asked by investigator himself. Most of the questions were open ended questions.

4.12 PROCEDURE DONE FOR MEASURING WEIGHT, HEIGHT, WAIST AND HIP CIRCUMFERENCES

4.12.1 Height

A portable height rod with a precision of 0.1 cm was used. The subject was asked to remove his/her footwear and to stand with feet together, knees straight and heels against the back; to look straight ahead and not to tilt their head up so that their eyes are at the same level of their ears. The measure arm was moved gently down onto the participants

head and was asked to breathe in and stand still. Then the height at the exact point was measured. Three readings were taken and the mean of these readings was calculated and used for data analysis.

4.12.2 Weight

The weight of the subject was measured using a weighing machine with a precision of 0.5kg. The initial reading in the weighing machine was set to zero before each measurement. The subjects were asked to remove their footwear before weighing. The reading was taken after ensuring that the subject was not in contact with any other object and in erect posture. Three readings were taken and the mean of these readings was calculated and used for data analysis.

4.12.3 Body Mass Index

It was calculated by using the formula weight in kg/height in m^2. Mean height and weight were used for calculating BMI and was classified based on WHO BMI classification[46] for analysis.

4.12.4 Waist circumference

It was measured using a measuring tape to the nearest 0.1 cm ay the midpoint between the lower margin of the last palpable rib and the top of the iliac crest with the subject standing, arms relaxed at the sides without causing the compression of the skin and at the end of normal respiration. The measurement was taken over light clothing since ensuring a private area was difficult in field settings.

4.12.5 Hip circumference

It was measured using a measuring tape to the nearest 0.1cm at the maximum circumference over the buttocks, with the subject standing arms relaxed at the sides without causing the compression of the skin.

4.12.6 Waist Hip Ratio

The mean of waist circumference and hip circumference reading was taken for calculating the waist hip ratio > 0.90 among males and >0.85 among females was considered as high.

4.12.7 Physical activity

WHO Global physical activity questionnaire[77] was used to collect information regarding heavy work, moderate work, sports, fitness, and recreational activities. Physical activity was classified into high, moderate and low categories and analysis was done.

4.13 Data Entry and Analysis-

Data was entered in Microsoft excel spreadsheet and analyzed using EZR software. Chi-square was used to find out the association between the factors influencing overweight and obesity. Logistic regression model was used to find out the most important factors influencing this.

4.14 Description of terms used in the study

4.14.1 Overweight/ Obesity

Overweight was considered as BMI ≥25 kg/m^2. pre obese, obese class I, obese class II and obese class III were taken together as obese

4.14.2 Waist :Hip Ratio

Waist hip ratio more than 0.90 among males and more than 0.85 among females was considered as abnormal as per modified WHO Asia pacific guidelines

4.14.3 Socioeconomic Status

Socioeconomic status of the study population was assessed using Modified Kuppuswamy's Status Scale[78]. This scale takes account of Education , Occupation and Family income per month. Highest education and occupation in the family were taken. The family income was modified using All India Consumer Price Index as on May 2014.(Annexure IV)

4.14.4 Overall Physical Activity

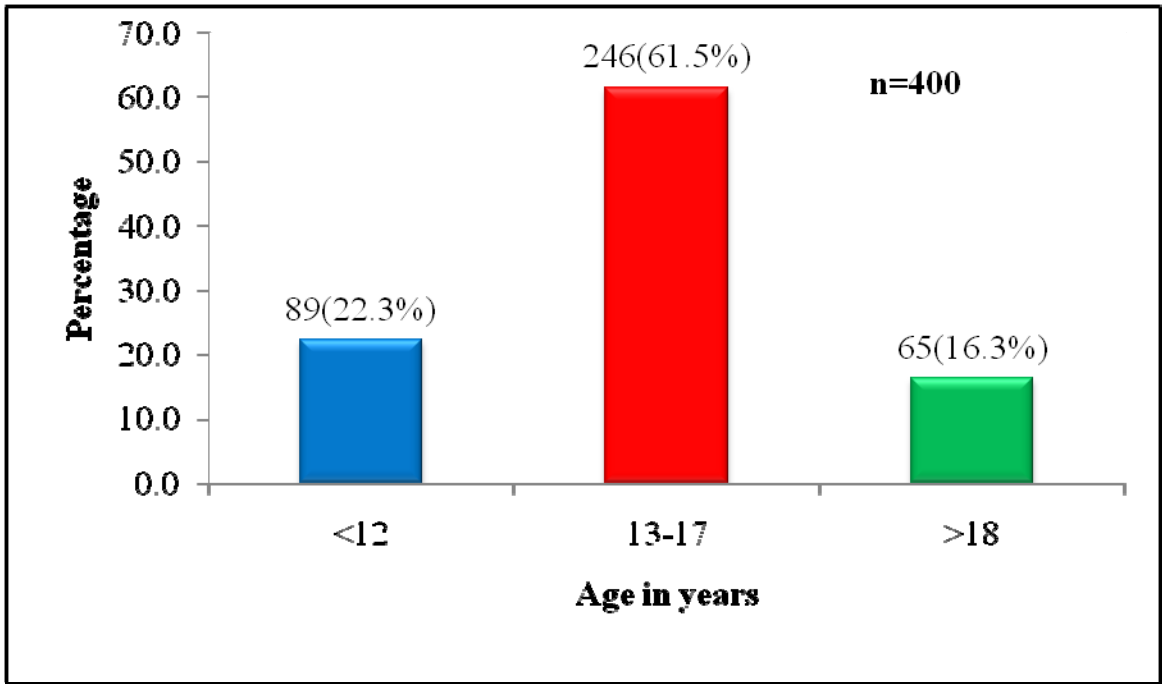
The Physical activity questionnaire[77] which was implemented by WHO for monitoring physical exertion in countries was used in this study. This questionnaire collects information on physical activity participation in three settings or domains and sedentary behaviour.The domains include at work ; travel to and from places and recreational activities. Physical activity was classified into high, moderate and low categories , for analysis moderate and low was considered as inadequate and high as adequate.

5. RESULTS

5.1 Socio demographic characteristics of the study population

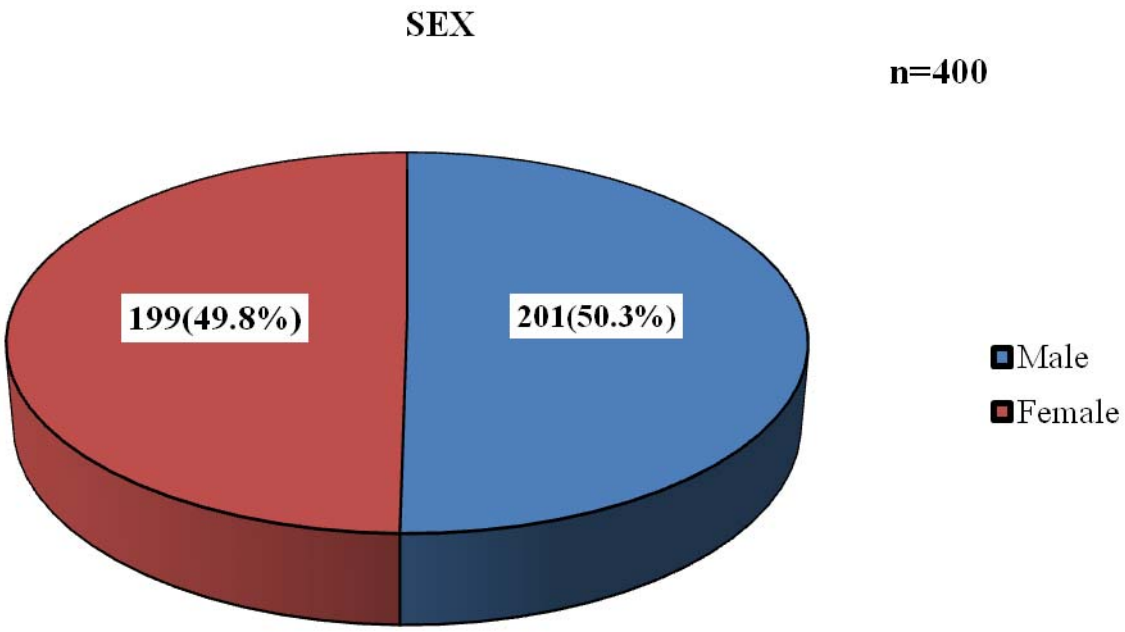
A cross sectional study was conducted on overweight and obesity among adolescents (10-19 years) in a rural area of Tamilnadu. A total of 400 subjects were studied and the observations were as follows

Fig 6 : Bar chart showing the distribution of study population according to age group



246(61.5%) of the study population belonged to 13 to 17 years. Number of adolescents in less than 12 years was 89(22.3%). 65(16.3%) adolescents belonged to >18 years.

Fig 7 : Pie chart showing distribution of Study Population according to gender:



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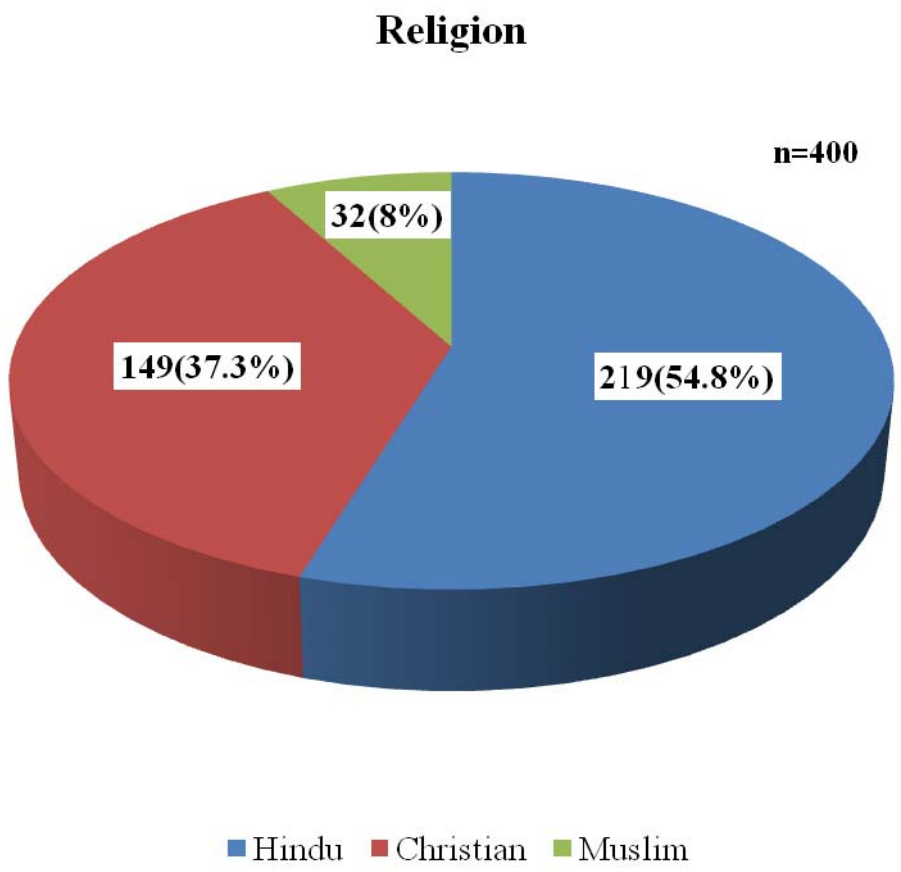
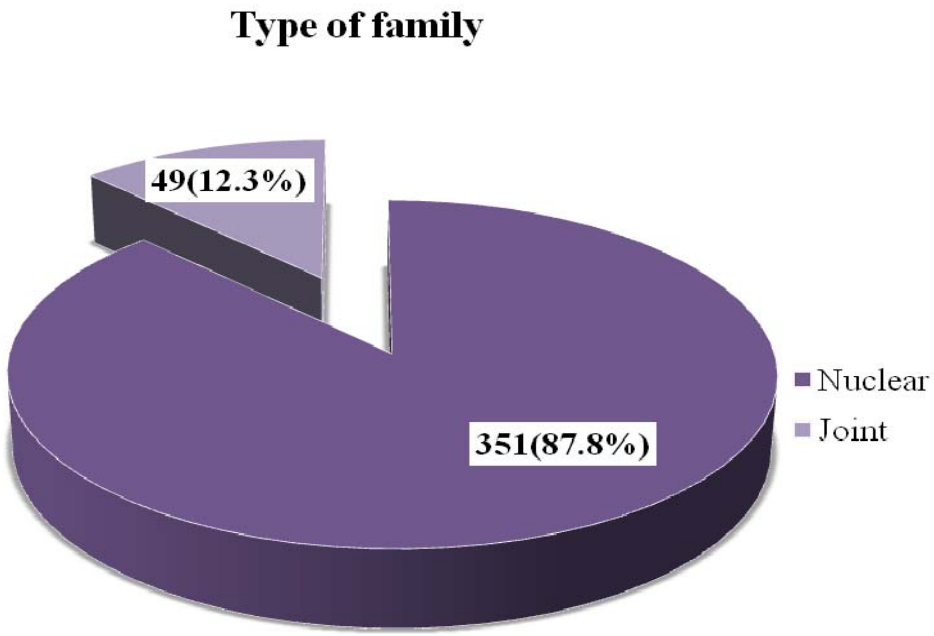
Adolescent boys constituted 201(50.3%) , while girls 199(49.8%) of the study population.

Fig 8 : Pie chart showing distribution of study population according to religion:



Out of the 400 adolescents, 219(54.8%) were Hindus , 149(37.3%) were Christians and 32(8%) were Muslims.

Fig 9 : Pie chart showing distribution of Study Population according to type of family:



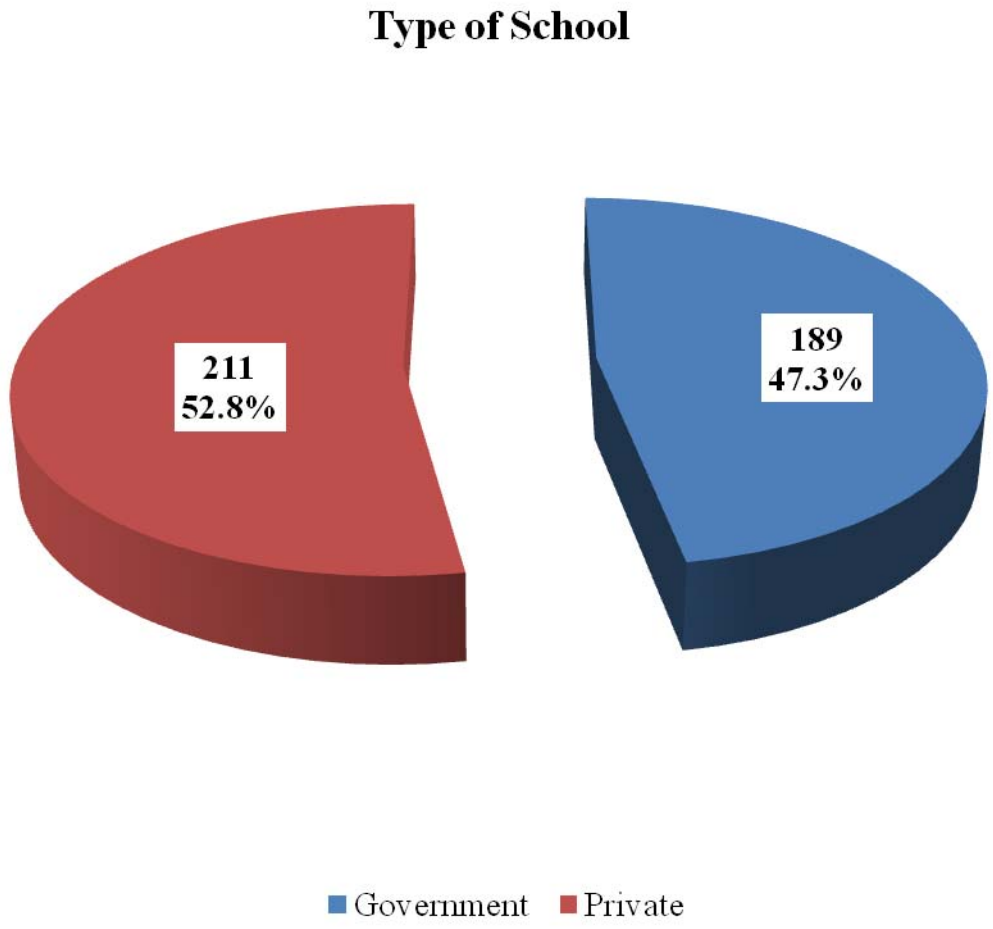
Most of the adolescents belonged to nuclear families 351(87.8%), followed by joint family 49(12.3%) and no extended family in the study.

Table 4 : Showing distribution of study population according to their educational status:

Educational Status	Frequency	Percentage(%)
Below high school	75	18.8
High school	184	46.0
Higher secondary	110	27.5
Graduate	31	7.8
Total	400	100.0

There was no illiterate in the study population. Most of the adolescents belonged to high school 184(46%) and by higher secondary 110(27.5%).

Fig 10 : Pie chart showing distribution of study population according to type of school:



Out of the 400 adolescents 211(52.8%) attended private schools , 189(47.3%) by government schools.

Table 5 : Distribution of study population according to socioeconomic status:(Modified Kuppuswamy's Classification)

GRADE	CLASS	FREQUENCY	PERCENTAGE (%)
26-29	Upper	12	3.0
16-25	Upper middle	54	13.5
11-15	Lower middle	123	30.8
5-10	Upper lower	211	52.8
<5	Lower class	-	-
Total		400	100.00

Adolescents in the study group were classified according to modified Kuppuswamy's classification. 211(52.8%) adolescents belonged to upper lower class, 123(30.8%) belonged to lower middle class, 54(13.5%) belonged to upper middle class, 12(3%) of adolescents belonged to upper socioeconomic class. No adolescents were in the lower class.

5.2 PREVALENCE OF OVERWEIGHT AND OBESITY IN THE STUDY POPULATION BY WHO CLASSIFICATION OF BMI

Prevalence of overweight and obesity in the study population was assessed by using WHO BMI Classification. The result were as follows As per the present study the prevalence of overweight is 8.5%(34) and obesity is 5.8%(23). About 65% of the study population were of normal weight and 20.8% were underweight.

Table No 6 : Showing prevalence of overweight and obesity in the study population.

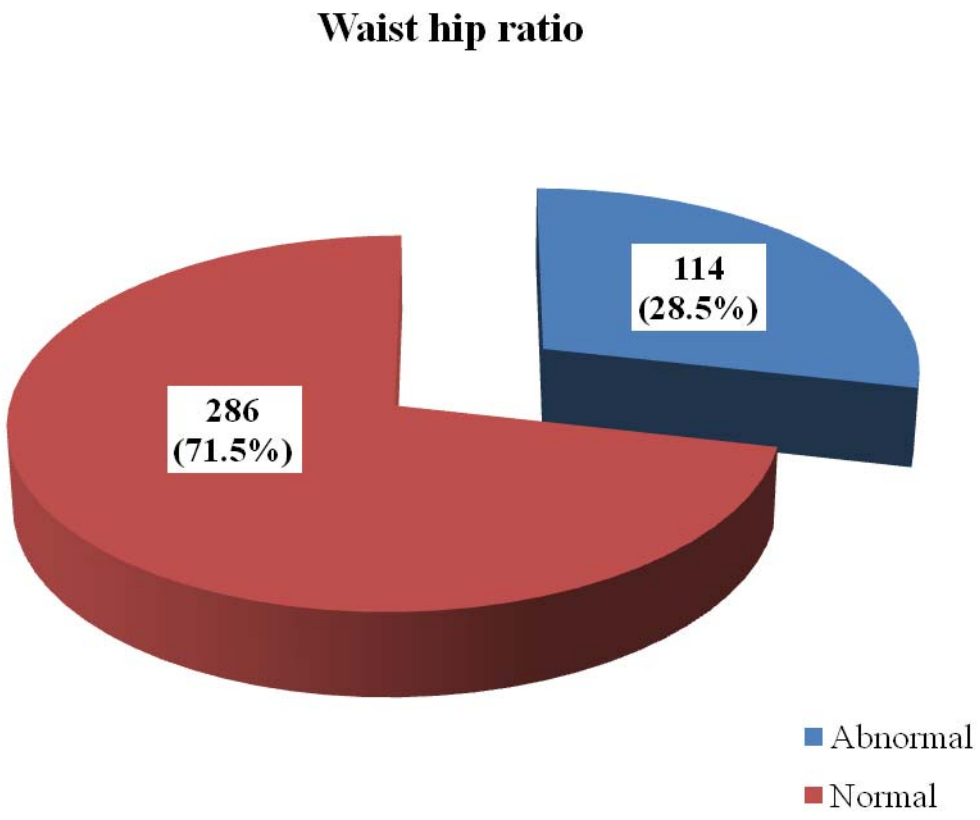
Category	**BMI**	**Frequency**	**Percentage**
Under weight	**<18.5**	83	20.8
Normal	**18.5-24.99**	260	65.0
Over weight	**25-29.99**	34	8.5
Obese	**>30**	23	5.8
Total		400	100.0

Table No 7 : Showing distribution of overweight and obesity based on gender:

Category	Male	Female	Total
Under weight	37(18.6%)	46(22.9%)	83(20.8%)
Normal	122(61.3%)	138(68.7%)	260(65%)
Over weight	22(11.1%)	12(6%)	34(8.5%)
Obese	18(9%)	5(2.5%)	23(5.8%)
Total	199	201	400

Out of the 199 adolescent females 22(11.1%) were overweight ,18(9%) were obese. In 201 adolescent males 12(6%) were overweight and 5(2.5%) are obese. About 122(61.3%) females and 138 males(68.7%) are in normal weight, 37 (18.6%) females and 46(22.9%) were underweight.

Fig 11 : Pie chart showing distribution of study population based on waist hip ratio:



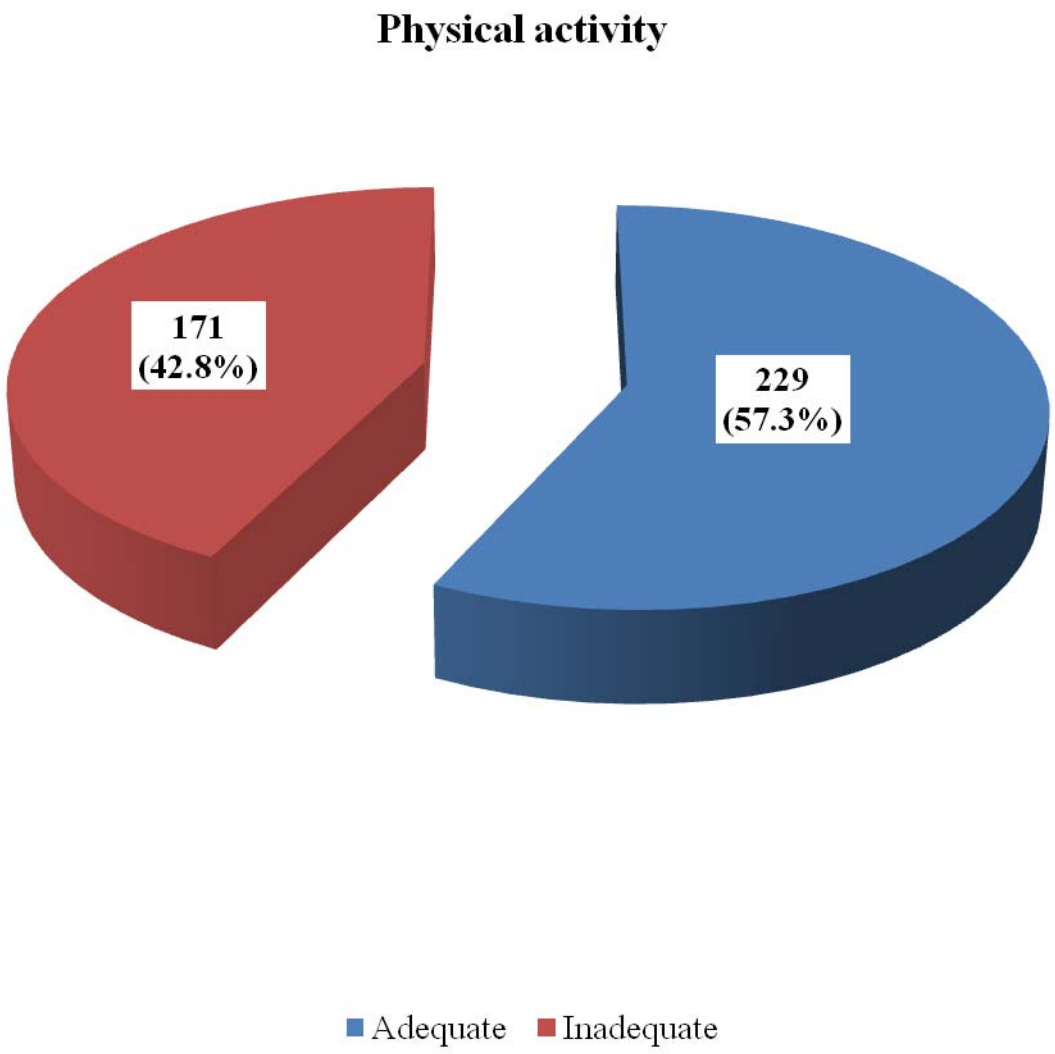
Out of 400 adolescents normal waist hip ratio in 286(71.5%) adolescents ,114(28.5%) had abnormal waist hip ratio.

Table No 8 : Showing distribution of waist hip ratio based on gender:

Waist Hip Ratio	Sex		TOTAL
	Female	Male	
Abnormal >0.85 in females >0.90 in males	80(40.2%)	34(16.9)	114(28.5%)
Normal <0.85 in females <0.90 in males	119(59.8%)	167(83.1%)	286(71.5%)
Total	199	201	400

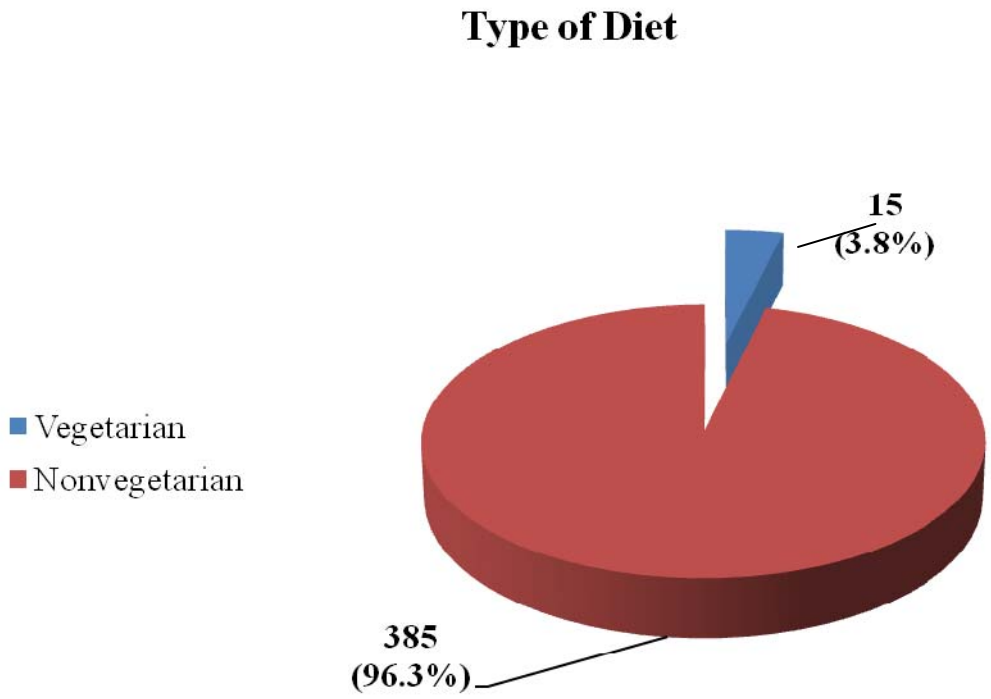
114 adolescents are having abnormal waist hip ratio among this 80(40.2%) were females and 34(16.9%) males. Among 286 normal waist hip ratio adolescents 119(59.8%) were females and 167(83.1%) males.

Fig 12 : Pie chart showing distribution of study population according to their physical activity:



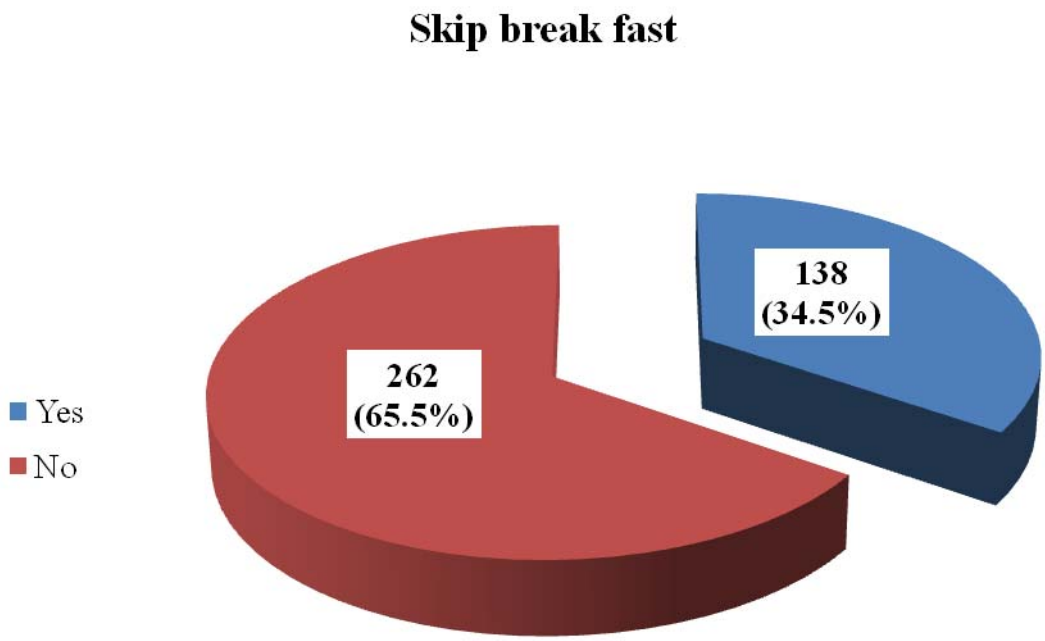
Among 400 adolescents physical activity is in adequate for 171(42.8%) and 229(57.3%) having adequate physical activity.

Fig 13 : Pie chart showing distribution of study population according to their type of diet:



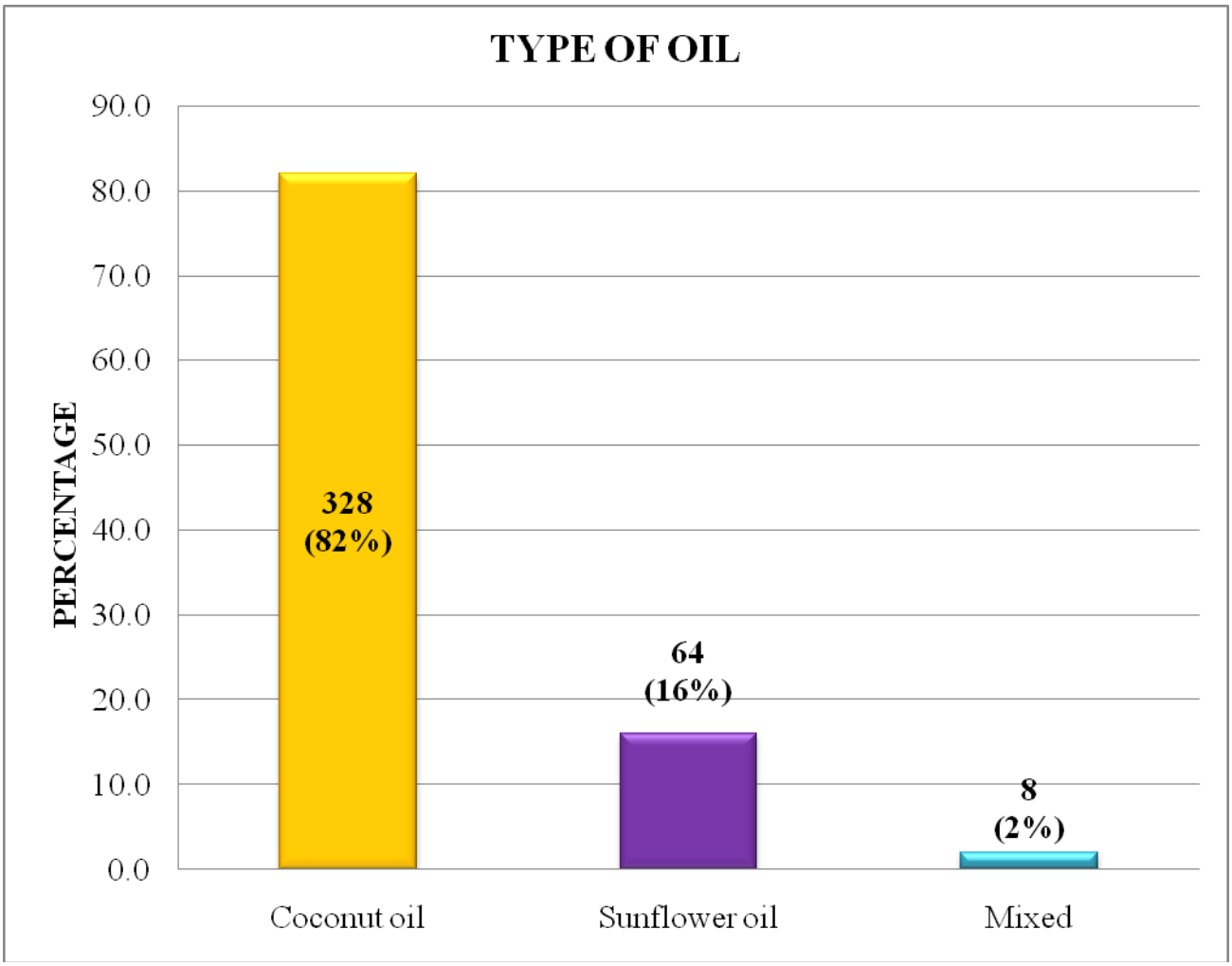
Many of the adolescents ie 385(96.3%) were consuming non vegetarian and only 15 (3.8%) vegetarians.

Fig 14 : Pie chart showing distribution of study population according to skipping breakfast:



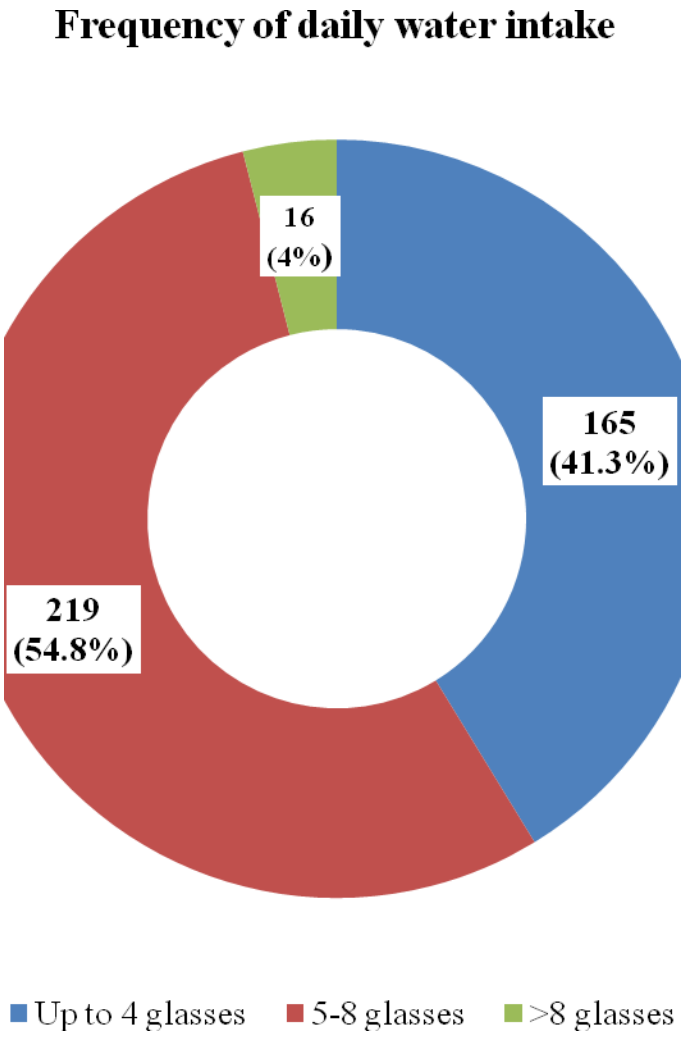
Among 400 adolescents 262(65.5%) had their breakfast regularly and 138(34.5%) used to skip their breakfast.

Fig 15 : Bar diagram showing distribution of study population according to their type of oil used for cooking:



328(82%) adolescents use coconut oil for their cooking purpose ,64(16%) used sunflower oil and 8(2%) are using mixed oil.

Fig 16 : Pie chart showing distribution of study population according to frequency of daily water intake



165 adolescents used to take up to 4 glasses of water daily, 219 takes 5 to 8 glasses of water and 16 adolescents takes more than 8 glasses of water per day.

Table No 9 : Showing distribution of study population according to frequency of consumption of specific food items

FOOD / FREQUENCY	Butter & cheese	Egg	Milk	Chicken	Redmeat	Bakery Items	Junkfoods
Never	15 (338.3%)	5 (1.3%)	5 (1.3%)	29 (7.3%)	116 (29.0%)	100 (25.0%)	183 (45.8%)
Once a month	134 (33.5%)	23 (5.8%)	5 (1.3%)	133 (33.3%)	**206 (51.5%)**	99 (24.8%)	**154 (38.5%)**
Once a week	93 (23.3%)	109 (27.3%)	12 (3.0%)	**211 (52.8%)**	76 (19.0%)	98 (24.5%)	56 (14.0%)
Once in three days	13 (3.3%)	**179 (44.8%)**	19 (4.8%)	20 (5.0%)	2 (0.5%)	98 (24.5%)	5 (1.3%)
Daily	7 (1.8%)	84 (21.0%)	**359 (89.8%)**	7 (1.8%)		5 (1.3%)	2 (0.5%)
Total	400	400	400	400	400	400	400

Out of 400 adolescents 359(89.8%) consumes milk daily , 211 (52.8%) consume chicken once in a week , 206(51.5%) consumes red meat once in a month ,154 (38.5%) consumes junk foods once in a month and 179(44.8%) adolescents takes egg once in three days

Table 10 : Showing Prevalence of overweight / obesity according to age group:

Age group (years)	BMI status		Total
	Over weight/ Obese	Normal/Under weight	
<12	4 (4.5%)	85 (95.5%)	89(100%)
13-17	40 (16.3%)	206 (83.7%)	246(100%)
>18	13 (20%)	52 (80%)	65(100%)
Total	57 (14.2%)	343 (85.8%)	400(100%)

χ^2 =9.504 df=2 **p=0.009**

In the present study 20% of those in the age group above 18 years were overweight and obese. The prevalence of overweight and obesity was 4.5% ,16.3% ,20% in the age groups less than 12 , 13-17 years respectively. It was evident that as age progresses there is an increasing trend of overweight and obesity .This observed difference was also found to be statistically significant.

Table 11 : Showing Prevalence of overweight / Obesity in sample according to Gender

Sex	BMI Status		Total
	Over weight/ Obese	Normal/Under weight	
Male	17 (8.5%)	184 (91.5%)	201 (100%)
Female	40 (20.1%)	159 (79.9%)	199 (100%)
Total	57 (14.2%)	343 (85.8%)	400 (100%)

χ^2 =11.093 df=1 **p=0.001**

20% of females are over weight /obese. Only 8.5% of males are overweight / obese and the difference was statistically significant.

Table 12 : Showing Prevalence of Overweight / Obesity according to type of school:

Type of School	BMI		Total
	Over weight/ Obese	Normal/Under weight	
Government	11 (5.8%)	178 (94.2%)	189 (100%)
Private	46 (21.8%)	165 (78.2%)	211 (100%)
Total	57 (14.2%)	343 (85.8%)	400 (100%)

χ^2 =20.837 df=1 **p<0.001**

46% of adolescents attending private schools are higher prevalence of overweight / obesity compared with 5.8% in Government schools, the result was statistically significant.

Table 13 : Showing Prevalence of overweight / obesity according to educational status

Educational Status	BMI		Total
	Over weight/ Obese	Normal/Under weight	
Below high school	3 (4%)	72 (96%)	75 (100%)
High school	26 (14.1%)	158 (85.9%)	184 (100%)
Higher secondary	23 (20.9%)	87 (79.1%)	110 (100%)
Graduate	5 (16.1%)	26 (83.9%)	31 (100%)
Total	57 (14.2%)	343 (85.8%)	400 (100%)

χ^2 =10.532 df=3 **p=0.015**

20.9% and 16.1% of the study population were over weight / obese among the Higher secondary and graduate group , followed by 14.1% in high school and 4% in below high school group and association was found to be statistically significant.

Table 14: Showing Prevalence of Overweight / Obesity among the study population according to socioeconomic status:

Grading of Socio economic Status	BMI Status		Total
	Over weight/ Obese	Normal/Under weight	
Upper	4 (33.3%)	8 (66.7%)	12(100%)
Upper middle	18 (33.3%)	36 (66.7%)	54 (100%)
Lower middle	18(14.6%)	105 (85.4%)	123(100%)
Upper lower	17 (8.1%)	194 (91.9%)	211 (100%)
Total	57 (14.2%)	343 (85.8%)	400 (100%)

χ^2 =26.308 df=3 **p<0.001**

Overweight /Obesity was more common among upper and upper middle class.33.3% from both upper and upper middle class were overweight and obese compared to 14.6% in lower middle class and 8.1% in upper lower class and the association was statistically significant

Table 15 : Showing Prevalence of overweight / obesity according to skipping breakfast:

Skip breakfast	BMI Status		Total
	Over weight/ Obese	Normal/Under weight	
Yes	25 (18.1%)	113 (81.9%)	138 (100%)
No	32 (12.2%)	230 (87.8%)	262 (100%)
Total	57 (14.2%)	343 (85.8%)	400 (100%)

χ^2 =2.577 df=1 p=0.108

Overweight / obesity were apparently more in those who are skipping breakfast compared with those who are not skipping breakfast (12.2%) and the association was not statistically significant.

Table 16 : Showing Prevalence of Overweight / obesity according to food in between meals

Food in between meals	BMI Status		Total
	Over weight/ Obese	Normal/Under weight	
Yes	16 (25%)	48 (75%)	64 (100%)
No	41 (12.2%)	295 (87.8%)	336(100%)
Total	57 (14.2%)	343 (85.8%)	400 (100%)

χ^2 =7.206 df=1 **p=0. 007**

Only 12.2% of the adolescents who do not take food in between meals are overweight / obese when compared to 25% among those who take food in between meals. The difference was statistically significant also.

Table 17 : Showing Prevalence Of Overweight / Obesity among the study sample based on intake of red meat

Consumption of Red meat	BMI Status		Total
	Over weight/ Obese	Normal/Under weight	
Never	5 (4.3%)	111(95.7%)	116(100%)
Once a month	30 (14.6%)	176 (85.4%)	206 (100%)
Once a week	22 (28.9%)	54 (71.1%)	76 (100%)
Once in three days	0	2 (100%)	2 (100%)
Total	57 (14.2%)	343 (85.8%	400

χ^2 =23.163 df=3 **p<0.001**

28.9% of adolescents who take red meat once a week are overweight / obese where as , only 14.6% of those who take meat once a month and 4.3% of those who never eat red meat are overweight / obese . The difference was seen to be statistically significant.

Table 18 : Showing Prevalence Of Overweight / Obesity among the study sample based on intake of junk foods:

Junk Foods	BMI Status		Total
	Over weight/ Obese	Normal/Under weight	
Never	12 (6.6%)	171 (93.4%)	183(100%)
Once a month	23 (14.9%)	131 (85.1%)	154(100%)
Once a week	19 (33.9%)	37 (66.1%)	56 (100%)
Once in three days	3 (60%)	2(40%)	5 (100%)
Daily	0	2 (100%)	2 (100%)
Total	57 (14.2%)	343 (85.8%)	400 (100%)

χ^2 =35.565 df=4 **p<0.001**

Prevalence of over weight /obesity were more common among those who consume junk foods once a week (33.9%), 14.9% and 6.6% among who consume junk food once an month and never consume junk foods respectively and the result was found to be statistically significant.

Table 19 : Showing Prevalence Of Overweight / Obesity according to physical activity:

Physical Activity	BMI Status		Total
	Over weight/ Obese	Normal/Under weight	
Adequate	6 (2.6%)	223(97.4%)	229(100%)
Inadequate	51 (29.8%)	120(70.2%)	171(100%)
Total	57 (14.2%)	343 (85.8%)	400(100%)

χ^2 =59.293 df=1 **p<0.001**

29.8% were over weight /obese among inadequate physical activity group compared with 6.8% among adequate physical activity group and difference was found to be statistically significant.

Table 20 : Showing Prevalence of Overweight / Obesity according to waist hip ratio:

Waist Hip Ratio	BMI status		Total
	Over weight/ Obese	Normal/Under weight	
Abnormal	47(41.2%)	67 (57.8%)	114(100%)
Normal	10(3.5%)	276 (96.5	286(100%
Total	57(14.2%)	343 (85.8%	400 (100%)

χ^2 =94.967 df=1 **p<0.001**

Overweight / obese are more in abnormal waist hip ratio group(41.2%) compared with normal group(3.5%) and its statistically significant. It was interesting to note that 57.8% of adolescents with abnormal waist hip ratio are normal / underweight.

5.3 Logistic Regression

The factors that were found to be statistically associated with overweight and obesity in chi square were also analyzed using binary logistic regression. The dependent variable considered for the analysis was overweight and obesity. This was analysed with a set of independent variable and enter method of logistic regression was used.

Regression equation $z=B_0+B_1X_1+B_2X_2=B_3X_3+…..B_KX_K$

The factors which were found to be statistically related with overweight and obesity in logistic regression were as follows.

Sex, type of school, educational status, socio economic status waist hip ratio , skipping breakfast ,physical activity , food in between the meal were significantly associated with overweight and obesity.

Table No 21 : Showing Binary logistic regression analysis

Independent Variables	B	S.E.	p	OR	95% C.I.for OR	
					Lower	Upper
Age	0.154	0.55	0.78	1.167	0.397	3.431
Sex	0.842	0.402	0.037	2.32	1.054	5.105
School	1.157	0.416	0.005	3.18	1.408	7.182
Education	0.805	0.436	0.065	2.238	0.952	5.26
Socioecnomic status	0.462	0.455	0.31	1.588	0.65	3.876
WHR	2.432	0.426	0	11.383	4.938	26.239
Physical activity	0.245	0.405	0.001	2.656	0.857	3.339
Skip breakfast	0.095	0.372	0.798	1.1	0.531	2.279
Habit of taking food in between the meal - Once a week or higher	0.389	0.44	0.377	1.475	0.623	3.496
Red meat	0.212	0.435	0.626	1.236	0.527	2.9
Junkfoods	-0.763	0.451	0.091	0.466	0.193	1.129
Constant	-7.724	2.569	0.003	0		

6. Discussion

65(16.3%) of the adolescents in the study population were aged >18 years , 89(22.3%) were <12 years , those aged 13-17 years 246 (61.5%) accounted for majority of subjects.

Out of the 400 adolescents males constituted majority 201(50.3%) followed by females 199 (49.8%) . Shashidar kotian et al[58] also found males constituted majority of 51.2% followed by females (48.7%) . Out of the 400 adolescents 219 (54.8%) were Hindus , 149 (37.3%) were Christians and 32 (8%) were Muslims.

Most of the adolescents belonged to nuclear families 351(87.8%) followed by joint family 49(12.3%) and no extended family in the study.

In Our study adolescent group were classified according to modified Kuppuswamy's classification[77]. 211 (52.8%) adolescents belonged to upper lower class , 123(30.8%) belonged to lower middle class , 54 (13.5%) belonged to upper middle class , 12(3%) of adolescents belonged to upper socioeconomic class and no adolescents belonged to lower class

Most of the adolescents 52.8% attended private schools ,47.3% government schools. There was no illiterate in the study population .Most of the adolescents belonged to high school(46%) and higher secondary(27.5%)

The study revealed a prevalence of 8.5% over weight and 5.8% obese among adolescents. Under weight constitute 20.8% of the study population. This is an interesting fact which shows that supplementary food programmes still have a role in the community

Lower prevalence was reported by Ambili Remesh[62] et al who indicated that prevalence of overweight / obesity to be 8.75% and 4.82% respectively and Goyal[28] et al in surat city reported the prevalence of overweight and obesity was found to be 6.55% and 13.9%

A high prevalence of 25%(overweight) & 7%(obesity) was reported by Kapil e al[31]. Sony Jagadesan et al[40] and Khadilkar et al[41] in Chennai also found very high prevalence of 18.1% (overweight)and 21.2% (obesity) respectively. Various studies from South India[34,35] revealed that the prevalence ranging between 11% -25% higher than the prevalence of present study.

The age of the adolescents ranged from 10 to 19 years. The study find a significant association between age and prevalence of overweight and obese, as age increasing prevalence of overweight and obesity increasing. Anita rani et al[66] revealed a significant association between age group and obesity.

In the Present study 20% of females are overweight / obese and 8.5% males are overweight / obese which was statistically significant. Both Naresh pal sing et al[64] and Anitha rani et al[66] found that females are more obese than males and the difference was statistically significant.

Overweight/ obesity was more common among upper and upper middle class and association was statistically significant. Naresh et al[64] found that prevalence of overweight / obese was high in high socioeconomic status and statistically significant .Similar findings in Avula laxmaiah et al[35] and supreet kaur et al[33].

Prevalence of overweight / obesity was higher in private schools 21.8% compared with 5.8% in government schools and was statistically significant. Sony Jagadesan et al[40] found the similar findings with in private schools (21.4%)compared to 3.6% in governments schools. Avula Laxmaiah et al[35] also found a significant relationship between private schools and overweight / obesity. Private school enrolment was a proxy to high socioeconomic status

Joint families reported more prevalence of over weight / obesity than nuclear families in our study but keerthan kumar[79] found that prevalence of overweight / obesity was more in nuclear families and statistically significant.

In our study overweight / obesity were apparently more in those who are skipping break fast and it was not statistically significant but Monika Arora et al [55]found that there was significant association between break fast and obesity

There was a significant association between food in between meals and obesity Overweight / obesity was more in those who are taking food in between meals similarly Shiny George et al[60] found that there was a significant association between food in between meals and obesity.

All overweight / obese subjects in the study are non vegetarians and no significant association was found but Kavitha Sree et al[61] found statistically significant association between overweight/ obesity and non –vegetarians.

Overweight /Obesity was more in those who are using coconut oil as type of oil used for cooking than sunflower oil .

There was no statistically significant association between the frequency of food consumption outside similar to the findings of Shiny George et al[60] study.

Overweight and Obesity was more in those who are consuming red meat and junk foods for once a week or more and the association was statistically significant. Seema Jain et al[38] found that over weight and obesity was found to be significantly associated with high intake of junk foods. Majority of the studies shows that overweight and obesity was significantly associated with high intake of junk foods.

Overweight and obesity was significantly associated with study subjects who are having abnormal waist hip ratio. kavitha sree et al[61] revealed that 1% increase in waist hip ratio contribute to 34.6 percent of BMI and statistically significant association between waist hip ratio and Overweight / obesity.

The results from the study clearly revealed that regular physical activity was an important factor in reducing the prevalence of overweight / obesity. The prevalence of over weight / obesity was more in those who are having inadequate physical activity and statistically significant. Both Seema jain et al[38] and Avula Laxmaiah et al[35] found that physical in activity was significantly associated with overweight / obesity. Similarly Krutarth et al[53] revealed that low level of physical activity was significantly associated with overweight / obesity.

7. Summary and Conclusion

The Present study was conducted among adolescents 10 to 19 years of both sexes in Thiruvattar Block of Kanyakumari District. It was a cross sectional study conducted over a period from March 2014 to May 2015. A sample size of 400 adolescents was selected for this study.

A structured questionnaire was used to collect the information regarding socio demographic variables and over weight and obesity was assessed using anthropometric measures like height , weight , waist and hip circumferences. Physical activity was measured using global physical activity questionnaire .Data were analyzed using EZR software.

Following results were obtained from the study:

The age distribution of the study population was between 10 to 19 years. Mean age of the study population was 14.6 ± 2.5SD.There were 201 (50.3%) males and 199 (49.8%) females. Majority were Hindus 219(54.8%) , followed by Christians 149(37.3%) and Muslim 32(8%)

The Prevalence of Overweight and obesity was 8.5% and 5.8%.20.8% of the study population are of underweight and 65% of the study population were of normal weight.

The Following risk factors were found to have statistically significant association with overweight and Obesity : Age- As age progresses there is an increasing trend of overweight and obesity,Sex-Maximum prevalence of overweight and obesity was observed among females(20.1%), Type of School- Private schools had a significantly higher

prevalence of overweight/ obesity , Socioecomic Status- Overweight and obesity was more common among upper(33.3%) and upper middle class(33.3%). Skip Breakfast-Skipping breakfast was associated with overweight / obesity(18.1%). Food In between meals-Over weight and obesity was more in those who are consuming food in between the meals(25%).Consumption of Junk foods-

There was a significant association between over weight and obesity and those who consuming junk foods more than once a week or More(33.9%). Physical Activity-Inadequate physical activity was associated with Overweight and obesity (29.8%)Waist Hip ratio- Overweight and obesity was associated with abnormal waist hip ratio (41.2%). The factors that were not found to statistically significant with overweight and obesity are eggs, chicken, bakery items, fruit Intake, daily water intake.

The factors which were significantly associated with overweight in Binary logistic regression were sex, type of school , socio economic status, educational status, skipping breakfast , food in between the meal ,waist hip ratio and physical activity.

8. Limitations

1. Causal relationships cannot be obtained since the study was cross sectional survey.

2. Recall bias about the dietary habits may have confounded some of the results.

3. Dietary pattern assessment was based on frequency of intake not the quantity of intake

9. Recommendations.

The Prevalence of Overweight and Obesity in our study area was 8.5% and 5.8% which demands intervention in many aspects. The causes of obesity are complex and the response needs to be multi-faceted. Healthy dietary practice , physical activity and prevention of sedentary habits should be integral to both the prevention and management of obesity.

9.1 Physical Activity:

Advise to involve in practice like yoga and simple aerobic exercises. Should be encouraged to do 60 minutes of moderate to vigorous activities daily.Reduce the time spent in sedentary activities like watching television and have an adequate sound sleep in Night. Lack of awareness about the importance of exercise and healthy diet , lack of interest and lack of time , lack of motivation and moreover even if motivated lack of consistency in the practice should be tackled

9.2 Dietary modifications:

Decrease proportion of total fat in the diet and preferentially include food with unsaturated fat in the diet as compared to food with saturated fat. High intake of fibre rich diet like vegetables , fruits and nuts. Reduce the frequency of consuming non vegetarian items like chicken and red meat .Discourage intake of junk foods and refined carbohydrates.

9.3 Community level activities

School and college programmes should support the adoption of health diets and routine physical activity in curriculum. Strengthen health education regarding the ill effects of obesity and importance of exercise and nutrition education about healthy dietary habits. Initiate community based screening programmes for overweight and obesity and start timely intervention measures. Information, education and communication through appropriate media to increase the public awareness about obesity and its hazards

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11. ANNEXURE

ANNEXURE – I

Sree Mookambika Institute of Medical Sciences
Kulasekharam (K.K District, TN) 629161
Phone No: 04651-280866, Fax No. 04651-280740

Institutional Human Ethics Committee
Registered under CDSCO with Reg No. ECR/446/Inst/TN/2013

Ref. No. SMIMS/IHEC/2013/C/20 **Date: 27th December 2013**

Certificate

This is to certify that the Research Protocol Ref. No. **SMIMS/IHEC/2013/C/20,** entitled "A Study on Overweight and Obesity Among Adolescents [10-19 Years] in a Rural Area of Kanyakumari District" submitted by Dr. Vishnu G. Ashok, Postgraduate of Department of Community Medicine, SMIMS has been approved by the Institutional Human Ethics Committee at its meeting held on 19th of December 2013.

[This Institutional Human Ethics Committee is organized and operates according to the requirements of ICH-GCP/GLP guidelines and requirements of the Amended Schedule-Y of Drugs and Cosmetics Act, 1940 and Rules 1945 of Government of India.]

SREE MOOKAMBIKA INSTITUTE OF MEDICAL SCIENCES * KULASEKHARAM * IHEC Date 27/12/2013

Dr. Rema Menon. N
Member Secretary
Institutional Human Ethics Committee
Professor of Pharmacology and HOD
SMIMS, Kulasekharam [K.K District]
Tamil Nadu -629161

ANNEXURE- II

PARTICIPANTS CONSENT FORM

The details of the study have been explained to me in writing and the details have been fully explained to me. I am aware that the results of the study may not be directly beneficial to me but will help in the advancement of medical sciences. I confirm that I have understood the study and had the opportunity to ask questions. I understand that my participation in the study is voluntary and that I am free to withdraw at any time, without giving any reason, without the medical care that will normally be provided by the hospital being affected. I agree not to restrict use of any data or results that arise from this study provided such a use is only for scientific purpose(s). I have been given an information sheet giving details of the study. I fully consent to participate in the study title "**A STUDY ON OVER WEIGHT AND OBESITY AMONG ADOLESCENTS(10-19 YEARS) IN A RURAL AREA OF KANYAKUMARI DISTRICT"**

Serial No. : O.P. No. :

Name of the Participant:

Address of the Participant;

Contact number of the participant:
Signature/ Thumb impression of the participant
Witnesses:

1.

Signature/ Thumb impression of the Parent / Guardian

2.

ANNEXURE- III

INTERVIEW SCHEDULE

A STUDY ON OVERWEIGHT AND OBESITY AMONG ADOLESCENTS (10-19years) IN A RURAL AREA OF KANYAKUMARI DISTRICT

SL NO :
PANCHAYATH:

AGE :
HOUSENUMBER:

SEX :

ADDRESS:

EDUCATION: ILLLITERATE / PRIMARY SCHOOL/HIGH SCHOOL / HIGHER SECONDRY / GRADUATE

TELEPHONE NUMBER:

	FATHER	MOTHER
EDUCATION		
OCCUPATION		
RELIGION		

Details Of The Family

TYPE OF FAMILY	
NUMBER OF FAMILY MEMBERS	
NUMBER OF ADOLESCENTS	
TOTAL FAMILY INCOME	
PERCAPITA INCOME	

I.Dietry Practices

1.Are you vegetarian/Non Vegetarian

2.Do you skip your Breakfast?

3.In a typical week ,on how many days you eat fruits?

1. Daily 2.once in 3 days 3. once in a week 4.Once a Month 5.Never

4.How many glass of water daily you drink?

5.What type of oil is used for cooking in your house?

6.Frequency of taking food from outside?

1.Daily 2.once in 3 days 3.once in a week 4.Once in a Month 5. Never

7.Are you in the habit of taking food in between the meals?

1.Yes 2. No-

8.At what time you have your dinner?

9.How often do you eat the following?

Food Items	**Never**	**Once A Month**	**Once AWeek**	**Once In Three Days**	**Daily**
Butter&cheese					
Egg					
Milk					
Chicken					
Red Meat					
Soft Drinks					
Bakery Items					
Junk foods					
Soft Drinks					

II.PHYSICAL ACTIVITY

1. Does your work involve **vigorous-intensity activity** that causes large increases in breathing or heart rate like [carrying or lifting heavy loads, digging or construction work] for at least 10 minutes continuously?

Yes/NO

a. In a typical week, on how many days do you do vigorous-intensity activities as part of your work? Number of days-

b. How much time do you spend doing vigorous-intensity activities at work on a typical day? Hours : minutes:

2. Does your work involve moderate-intensity activity, that causes small increases in breathing or heart rate such as brisk walking [or carrying light loads] for at least 10 minutes continuously? YES/NO

a. In a typical week, on how many days do you do **moderate-intensity** activities as part of your work? Number of days –

b. How much time do you spend doing moderate-intensity activities at work on a typical day?Hours : minutes

3. Do you walk or use a **bicycle (pedal cycle)** for at least 10 minutes continuously to get to and from places? Yes No

a. In a typical week, on how many days do you walk or bicycle for at least 10 minutes continuously to get to and from places?

b. How much time do you spend walking or bicycling for travel on a typical day? Hours – Minutes –

4. Do you do any **vigorous-intensity sports**, fitness or recreational (leisure) activities that cause large increases in breathing or heart rate like [running or football] for at least 10 minutes continuously? Yes – No-

a. In a typical week, on how many days do you do vigorous-intensity sports, fitness or recreational (leisure) activities?Number of days-

b. How much time do you spend doing vigorous-intensity sports, fitness or recreational activities on a typical day?Hours : minutes

5. Do you do any **moderate-intensity sports**, fitness or recreational (leisure) activities that cause a small increase in breathing or heart rate such as brisk walking, [cycling, swimming, volleyball] for at least 10 minutes continuously?

a. In a typical week, on how many days do you do moderate-intensity sports, fitness or recreational (leisure) activities?

b How much time do you spend doing moderate-intensity sports, fitness or recreational (leisure) activities on a typical day? Number of days

6 . How much time do you usually spend **sitting or reclining** on a typical day?

III ANTHROPOMETRY

Height in cm-

Weight in kg-

Height in cm-

B M I=

Hip Circumference-

Waist Circumference-

Waist Hip Ratio

ANNEXURE-IV

MODIFIED KUPPUSWAMY'S CLASSIFICATION

Item		**Score**
A.	**EDUCATION SCORE**	
1.	Profession or Honours	7
2	Graduate or post graduate	6
3	Intermediate or post high school diploma	5
4	High school certificate	4
5	Middle school certificate	3
6	Primary school certificate	2
7	Illiterate	1
B.	**OCCUPATION SCORE**	
1.	Profession	10
2.	Semi-Profession	6
3.	Clerical, Shop-owner, Farmer	5
4.	Skilled worker	4
5.	Semi-skilled worker	3
6.	Unskilled worker	2
7.	Unemployed	1
C.	**FAMILY INCOME PER MONTH (in Rs).Modified for 2014**	
1	≥36017	12
2	18000-36016	10
3	13495-17999	6
4	8989-13494	4
5	5387-8988	3
6	1803-5386	2
7	≤1802	1
Total Score (Socioecnomic class)		
26-29 :Upper (I)		
16-25: Upper Middle (II)		
11-15 :Middle/Lower middle (III)		
5-10: Lower/Upper lower (Iv)		
<5: Lower(V)		

ANNEXURE - V

slno	age	se	edu	sch	edu	ed	occ	occ	rel	fan	fan	income	per capit	di	sk	fru	wa	oi	foo	fo	dir	bu	eg	mil	ch	red	ba	ju	heigh	weig	BMI	Wai	hip	WH	PHY
1	14	1	3	2	5	4	1	5	2	2	5	150000	30000	2	2	2	2	1	4	1	1	5	3	5	3	1	5	5	162	56	21.33821	86	83	1.036144578	2
2	14	1	3	2	4	3	2	5	1	1	4	100000	25000	2	1	3	2	1	4	2	2	1	4	5	3	3	1	1	140	27	13.77551	43	40	1.075	2
3	14	2	3	2	3	5	3	1	2	1	4	15000	3750	2	2	3	2	2	5	1	2	1	3	5	3	1	5	5	155	48	19.97919	76	74	1.027027027	1
4	15	2	4	2	5	3	2	3	2	2	5	20000	4000	2	1	1	1	1	5	2	2	4	1	5	3	1	5	1	160	35	13.67188	76	76	1	2
5	14	2	3	2	4	3	4	2	1	1	4	30000	7500	2	1	2	2	1	3	2	2	3	4	5	3	3	4	1	159	37	14.6355	78	86	0.906976744	1
6	13	2	3	2	5	5	1	1	3	1	4	20000	5000	2	2	3	2	1	4	2	2	4	4	5	3	3	4	2	146	52	24.39482	84	88	0.954545455	2
7	13	2	3	1	2	2	3	5	2	1	4	10000	2500	2	2	3	2	1	4	2	2	2	5	5	3	2	4	3	152	50	21.64127	72	85	0.847058824	1
8	16	1	4	1	2	2	4	5	2	1	4	9000	2250	2	2	3	2	1	4	2	2	3	5	5	3	2	3	3	162	60	22.86237	75	88	0.852272727	1
9	15	1	4	2	4	3	2	5	2	1	4	50000	12500	2	1	3	2	1	4	2	1	2	5	5	3	2	4	2	160	58	22.65625	83	86	0.965116279	2
10	13	2	3	1	3	2	3	5	1	1	3	6500	2166.7	2	1	3	2	1	5	2	2	2	4	5	2	1	2	1	140	38	19.38776	68	82	0.829268293	1
11	15	1	3	1	3	2	4	5	1	1	4	8000	2000	2	2	2	2	1	5	2	1	2	5	5	2	2	1	1	150	46	20.44444	67	82	0.817073171	1
12	17	1	4	1	3	3	4	4	1	1	3	9000	3000	2	1	2	2	1	4	2	2	1	4	5	3	3	1	3	158	53	21.23057	71	82	0.865853659	1
13	17	1	4	1	1	1	4	5	1	2	4	7250	1812.5	2	1	5	2	1	4	2	2	3	4	5	3	3	3	2	156	41	16.84747	66	75	0.88	1
14	16	1	4	1	3	3	4	5	2	2	5	25000	5000	2	2	2	2	1	4	2	2	1	4	5	2	2	3	1	164	46	17.10291	72	84	0.857142857	1
15	15	1	3	1	3	3	4	5	1	1	4	8000	2000	2	2	3	1	1	5	2	1	1	5	5	3	3	3	2	148	45	20.54419	65	80	0.8125	2
16	15	2	3	1	2	3	4	5	1	2	4	9000	2250	2	1	2	2	1	5	2	1	2	5	5	2	2	1	1	150	48	21.33333	67	78	0.858974359	1
17	18	1	4	2	3	2	4	5	2	1	4	9500	2375	2	2	4	2	1	5	2	1	2	5	5	3	3	4	2	156	49	20.13478	70	84	0.833333333	1
18	13	1	3	2	4	3	2	5	2	2	6	25000	4166.7	2	1	4	2	1	3	2	1	3	5	5	3	2	3	3	154	75	31.62422	96	100	0.96	2
19	14	2	3	2	4	3	3	5	1	1	4	35000	8750	2	2	1	2	1	2	2	1	1	5	5	3	3	2	3	145	65	30.91558	74	75	0.986666667	2
20	14	1	3	1	4	3	3	5	2	1	4	7500	1875	2	1	3	2	1	4	1	2	1	4	5	3	1	4	3	142	40	19.83733	74	83	0.891566265	1
21	10	2	6	2	4	3	3	5	1	1	4	25000	6250	1	2	2	2	1	4	2	1	2	5	5	3	3	4	2	146	35	16.41959	64	78	0.820512821	1
22	10	2	2	1	4	3	3	5	3	1	4	20000	5000	2	1	4	2	1	4	2	2	3	5	5	4	3	4	2	146	45	21.1109	74	78	0.948717949	2
23	19	1	4	2	5	4	3	5	2	1	5	42000	8400	2	1	3	2	1	3	2	2	1	5	5	3	3	4	1	172	46	15.54895	68	84	0.80952381	1
24	15	1	3	1	3	3	2	5	1	1	4	5000	1250	2	2	4	2	1	5	2	1	1	4	4	1	1	1	1	170	46	15.91696	66	81	0.814814815	1
25	16	2	3	1	3	5	2	1	1	1	3	35000	11667	2	1	2	2	1	3	1	2	3	5	5	3	3	3	3	150	54	24	68	78	0.871794872	2
26	14	1	3	1	3	3	2	5	2	1	4	6000	1500	1	2	2	4	2	2	5	2	1	4	5	3	2	2	1	165	40	14.69238	58	70	0.828571429	1
27	18	1	4	2	3	3	2	5	1	2	6	10000	1666.7	2	1	3	2	1	4	1	2	3	4	5	3	3	4	3	155	85	35.37981	###	108	0.935185185	2
28	15	1	3	1	3	1	3	4	5	2	4	8000	2000	2	1	2	2	1	5	2	1	2	4	5	3	2	2	2	154	40	16.86625	58	79	0.734177215	1
29	10	2	2	2	3	3	3	5	1	1	4	8500	2125	2	1	3	2	1	4	2	2	1	4	5	2	1	4	1	140	35	17.85714	67	79	0.848101266	1
30	19	1	5	2	3	4	3	4	2	1	4	8000	2000	2	2	3	2	1	5	2	2	1	3	4	2	1	3	1	172	60	20.28123	66	82	0.804878049	1
31	11	1	6	2	4	3	3	5	1	1	4	10000	2500	2	2	3	2	1	5	2	1	1	4	5	2	1	4	1	130	28	16.56805	58	66	0.878787879	1

32	10	2	2	2	3	3	4	4	1	1	3	7000	2333.3	2	2	4	1	1	4	2	1	1	3	5	2	1	3	1	130	30	17.75148	62	76	0.815789474	1
33	12	1	3	1	2	2	4	5	2	1	4	6500	1625	2	1	5	1	2	5	2	2	3	4	5	2	1	1	1	140	34	17.34694	62	74	0.837837838	1
34	16	1	4	1	3	2	2	5	1	2	4	50000	12500	2	1	3	1	1	4	2	1	4	4	5	3	1	4	3	144	50	24.11265	71	78	0.91025641	2
35	14	2	3	1	4	3	3	5	1	1	4	8000	2000	2	2	4	2	1	4	2	1	3	4	5	3	2	3	3	150	45	20	64	78	0.820512821	1
36	19	1	5	2	4	3	4	4	1	1	4	5000	1250	2	2	5	1	1	5	2	1	1	3	5	2	2	1	1	160	55	21.48438	66	84	0.785714286	1
37	16	1	4	2	4	3	3	5	1	1	4	25000	6250	2	1	3	2	1	3	2	2	3	4	5	3	2	3	2	140	35	17.85714	64	75	0.853333333	2
38	15	1	3	1	5	5	1	1	1	1	4	30000	7500	2	2	3	2	1	4	2	2	1	4	5	3	2	4	2	140	45	22.95918	65	75	0.866666667	1
39	19	1	5	2	3	3	2	5	2	1	4	9000	2250	2	1	4	2	1	4	2	1	2	4	5	3	2	4	2	170	72	24.91349	77	90	0.855555556	1
40	18	1	4	2	5	4	2	5	1	1	4	50000	12500	2	1	1	2	2	5	2	1	1	4	5	3	1	4	2	168	78	27.63605	###	102	0.990196078	2
41	17	1	5	2	5	5	2	5	2	1	3	25000	8333.3	2	2	2	2	3	5	2	1	1	4	5	3	1	3	2	164	40	14.8721	68	81	0.839506173	1
42	18	2	4	1	3	3	4	5	2	1	4	8000	2000	2	2	5	3	2	5	2	1	1	4	5	3	2	4	1	170	52	17.99308	58	72	0.805555556	1
43	17	2	4	2	4	3	4	5	1	1	3	10000	3333.3	2	1	3	3	1	5	2	2	1	4	5	2	2	4	2	166	74	26.85441	64	78	0.820512821	2
44	14	2	3	2	5	4	2	5	1	1	5	50000	10000	2	2	3	1	1	2	1	2	5	5	5	4	3	4	3	155	70	29.13632	87	90	0.966666667	2
45	13	2	3	2	2	3	4	5	2	1	3	4500	1500	2	1	3	1	1	5	2	1	2	3	5	2	1	1	3	153	48	20.50493	65	78	0.833333333	1
46	14	1	3	1	3	1	4	5	1	1	4	6500	1625	2	1	3	1	1	4	2	1	2	3	5	2	3	1	1	160	60	23.4375	78	89	0.876404494	1
47	14	2	3	2	5	5	1	1	1	1	4	12000	3000	2	2	3	1	1	3	1	1	1	5	5	3	3	2	2	160	68	26.5625	75	78	0.961538462	2
48	15	1	3	1	4	3	4	4	2	1	3	7000	2333.3	2	1	5	2	1	5	2	1	1	3	5	3	2	1	1	165	60	22.03857	68	79	0.860759494	1
49	18	1	5	1	5	4	1	5	1	1	4	9000	2250	2	1	3	2	1	3	2	2	3	4	5	2	3	2	4	167	66	23.66524	80	84	0.952380952	1
50	13	2	3	2	4	1	3	5	3	1	3	6000	2000	2	2	4	2	1	3	1	2	3	4	5	2	1	3	2	153	58	24.7768	79	85	0.929411765	2
51	19	1	5	1	4	4	2	4	3	1	5	10000	2000	2	2	3	1	2	4	2	1	2	3	5	4	3	4	2	170	65	22.49135	74	86	0.860465116	1
52	13	2	3	1	4	3	4	4	2	1	3	8000	2666.7	2	2	3	1	1	4	2	2	2	4	5	3	2	3	1	152	48	20.77562	65	76	0.855263158	1
53	14	2	3	2	1	2	4	4	1	1	4	7000	1750	2	2	4	1	1	5	2	1	#	3	5	3	2	2	1	160	54	21.09375	66	78	0.846153846	1
54	18	1	4	1	1	3	3	4	1	1	4	8000	2000	2	2	3	1	1	4	1	1	3	4	5	2	2	4	2	165	60	22.03857	68	82	0.829268293	1
55	18	2	4	2	4	2	3	4	5	1	3	9000	3000	2	2	4	1	1	4	2	2	1	3	5	3	1	1	1	168	70	24.80159	82	86	0.953488372	2
56	15	2	3	2	4	3	4	5	1	1	4	5000	1250	2	2	2	1	1	4	2	1	1	4	5	2	3	1	1	155	55	22.89282	68	80	0.85	1
57	14	1	3	1	4	3	3	5	1	1	4	7000	1750	2	2	2	3	1	1	4	2	1	2	3	5	2	3	2	157	56	22.71897	70	84	0.833333333	1
58	16	2	4	2	4	3	4	4	1	1	4	6000	1500	2	1	2	2	1	5	2	1	2	3	5	2	3	3	2	165	75	27.54821	88	90	0.977777778	2
59	15	2	3	2	4	4	3	5	1	1	3	5000	1666.7	2	2	5	2	1	4	1	2	2	3	5	3	2	2	2	155	50	20.81165	68	82	0.829268293	1
60	12	1	3	2	1	3	4	4	2	1	4	7500	1875	2	1	3	1	1	4	2	1	1	2	5	3	1	2	1	152	45	19.47715	68	80	0.85	1
61	15	2	3	1	1	1	3	4	3	1	5	5000	1000	2	1	3	2	1	4	2	1	2	3	5	3	2	1	1	155	48	19.97919	70	82	0.853658537	1
62	17	2	4	2	3	3	3	5	2	1	4	10000	2500	2	2	4	2	1	3	1	1	2	5	5	4	3	1	1	158	78	31.24499	89	94	0.946808511	2
63	18	2	4	2	4	4	2	2	2	1	3	8000	2666.7	2	2	3	1	1	4	2	1	2	4	5	2	2	2	2	160	55	21.48438	63	78	0.807692308	1
64	13	2	3	1	3	3	4	5	2	1	4	6800	1700	2	2	3	2	1	4	2	2	1	4	5	2	1	1	1	156	50	20.54569	65	80	0.8125	1

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66	19	1	5	1	4	1	4	4	3	1	5	8000	1600	2	1	2	2	1	4	2	1	1	4	5	3	2	2	1	170	65	22.49135	78	92	0.847826087	1
67	11	1	6	2	4	3	3	5	1	1	4	6500	1625	2	2	2	1	2	2	1	1	5	5	3	3	3	2	2	130	38	22.48521	79	78	1.012820513	2
68	12	1	6	2	3	1	4	5	1	1	3	4000	1333.3	2	2	5	2	3	5	2	1	1	4	5	2	2	1	1	130	32	18.93491	60	73	0.821917808	1
69	13	2	3	2	4	3	4	5	1	1	6	7400	1233.3	1	2	2	2	1	5	2	3	1	5	1	1	1	1	1	140	40	20.40816	65	78	0.833333333	1
70	12	1	6	2	4	3	3	5	1	1	4	11000	2750	2	2	2	2	1	4	2	1	2	5	5	3	3	2	2	120	35	24.30556	57	68	0.838235294	1
71	15	1	3	2	5	4	1	5	2	2	5	14000	2800	2	1	2	1	1	2	2	1	2	5	5	4	3	2	3	155	60	24.97399	84	87	0.965517241	2
72	11	2	6	1	4	3	3	5	1	1	4	6000	1500	2	2	2	1	1	5	2	2	1	4	5	2	2	1	1	146	35	16.41959	66	80	0.825	1
73	11	2	6	2	1	1	4	5	1	1	4	5000	1250	2	2	5	1	1	5	2	1	1	3	4	5	2	1	1	142	40	19.83733	65	78	0.833333333	2
74	10	2	6	2	4	2	3	5	2	1	4	4800	1200	2	2	3	2	1	5	2	1	1	3	5	2	2	2	1	134	46	25.61818	68	80	0.85	1
75	15	1	3	2	4	5	3	1	1	1	4	11000	2750	2	2	3	1	1	4	2	1	1	4	5	3	2	2	1	154	50	21.08281	78	86	0.906976744	2
76	10	2	6	1	1	1	4	4	2	1	4	3000	750	2	2	5	2	1	4	2	2	1	3	4	1	1	1	1	134	38	21.16284	68	80	0.85	1
77	12	1	6	2	6	2	4	5	2	1	3	4000	1333.3	2	2	5	2	1	4	1	1	1	3	5	2	1	1	1	135	32	17.5583	66	78	0.846153846	1
78	11	1	6	2	3	6	4	5	2	1	4	9500	2375	2	1	2	1	1	4	2	1	2	4	5	3	3	1	1	160	40	15.625	68	79	0.860759494	1
79	18	1	4	1	2	2	4	5	1	1	3	2000	666.67	2	2	5	1	2	5	2	1	1	3	5	2	2	1	1	167	65	23.30668	74	86	0.860465116	1
80	14	1	3	1	2	2	4	4	1	1	4	3000	750	2	2	5	3	1	5	2	2	1	3	5	1	1	1	1	160	60	23.4375	68	79	0.860759494	1
81	14	2	3	1	5	4	1	5	3	1	4	25000	6250	2	2	1	2	1	3	2	1	3	5	5	4	3	3	4	140	62	31.63265	84	86	0.976744186	2
82	17	1	4	1	3	3	2	5	2	1	3	15000	5000	2	1	2	2	1	3	2	1	3	5	5	3	2	3	2	140	45	22.95918	64	75	0.853333333	1
83	17	2	4	2	3	3	4	4	2	2	7	7000	1000	2	1	1	3	1	2	1	1	3		5	3	2	3	2	144	55	26.52392	64	78	0.820512821	2
84	18	1	4	1	1	3	3	5	2	1	3	6000	2000	2	2	5	1	1	4	2	2	1	3	5	3	1	2	1	168	62	21.96712	68	82	0.829268293	1
85	15	2	3	1	6	6	4	5	1	1	4	4600	1150	2	1	5	1	1	4	1	2	3	4	5	2	1	3	1	155	60	24.97399	64	76	0.842105263	2
86	14	1	3	2	3	3	4	5	1	1	4	8400	2100	2	2	3	1	1	4	2	2	2	3	5	2	1	2	1	157	55	22.31328	72	85	0.847058824	1
87	16	2	3	1	2	2	4	4	1	2	4	5500	1375	2	2	2	2	1	5	2	1	2	3	5	2	1	2	3	155	56	23.30905	74	86	0.8604	1
88	13	2	3	2	5	5	1	1	3	1	4	20000	5000	2	2	1	2	1	3	2	2	3	5	5	3	3	5	3	142	62	30.74787	86	88	0.977272727	2
89	11	2	6	1	6	2	4	5	2	1	4	6500	1625	1	2	2	2	1	1	2	3	1	5	1	1	1	1	1	136	38	20.54498	66	78	0.846153846	1
90	19	1	5	2	3	4	4	5	2	1	4	7500	1875	1	2	2	2	1	1	2	2	3	5	5	3	2	5	3	160	64	25	68	80	0.85	2
91	18	1	4	3	3	2	5	2	1	3	3	8000	2666.7	2	2	5	2	1	2	2	1	2	5	5	2	2	3	1	176	60	19.36983	68	84	0.80952381	1
92	15	1	3	2	3	6	4	5	1	1	4	7000	1750	2	2	2	2	1	5	2	1	2	5	5	2	2	3	2	145	45	21.40309	68	80	0.85	2
93	19	2	5	1	3	6	3	5	2	1	4	15000	3750	2	1	5	1	1	2	2	2	2	5	5	3	2	3	2	160	70	27.34375	76	78	0.974358974	2
94	17	1	4	1	3	3	4	4	2	2	6	7000	1166.7	2	2	5	2	1	4	2	2	1	3	5	3	2	3	2	164	46	17.10291	72	84	0.857142857	1
95	15	1	3	1	4	4	4	4	1	1	4	7500	1875	2	2	5	1	4	2	1	2	4	5	2	1	1	1	1	148	45	20.54419	65	80	0.8125	1
96	15	2	3	2	4	3	4	4	2	1	4	10000	2500	2	2	3	2	2	5	2	2	1	4	5	2	2	3	1	150	48	21.33333	67	78	0.858974359	1
97	19	1	4	2	6	6	4	4	1	1	4	9000	2250	2	2	3	1	1	5	2	1	1	2	5	1	1	3	1	158	50	20.02884	72	86	0.837209302	1

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99	14	2	3	2	3	6	3	5	1	1	4	35000	8750	2	2	5	2	1	4	2	1	3	5	5	3	2	4	3	145	65	30.91558	74	75	0.986666667	2
100	15	1	3	1	4	4	2	5	2	1	3	8000	2666.7	2	1	5	1	2	5	2	1	1	3	5	2	2	2	2	146	40	18.76525	74	86	0.860465116	1
101	11	2	6	2	5	3	1	5	2	1	4	20000	5000	2	2	3	2	1	4	2	2	3	5	5	3	2	3	2	142	40	19.83733	65	74	0.878378378	1
102	14	1	3	2	3	6	4	5	1	1	3	7500	2500	2	2	5	2	1	5	2	1	3	4	5	2	1	1	1	150	42	18.66667	70	84	0.833333333	2
103	18	1	4	1	5	4	3	3	3	1	4	20000	5000	2	2	2	2	1	3	2	1	1	5	5	4	3	3	2	160	55	21.48438	68	82	0.829268293	1
104	13	1	3	1	6	6	4	5	1	1	4	6000	1500	2	2	4	1	1	5	2	1	4	5	3	2	3	2	1	162	42	16.00366	68	81	0.839506173	1
105	17	2	4	2	3	3	4	5	2	2	6	12000	2000	2	2	2	1	1	4	2	1	1	4	5	3	2	2	1	150	60	26.66667	66	78	0.846153846	2
106	16	1	3	1	3	3	4	5	1	1	4	9000	2250	2	2	5	2	1	4	2	2	2	4	5	3	2	3	2	156	42	17.25838	65	80	0.8125	1
107	18	2	4	2	3	3	3	4	1	1	4	8000	2000	2	1	3	3	1	4	2	2	3	4	5	3	2	3	1	174	62	20.47827	68	84	0.80952381	1
108	12	1	6	1	6	6	4	5	1	1	4	7000	1750	2	2	3	2	1	4	2	1	3	4	5	3	2	4	2	136	34	18.38235	58	70	0.828571429	1
109	15	2	3	1	3	6	4	5	1	1	4	12000	3000	2	2	5	2	1	5	2	2	3	4	5	3	2	4	3	152	48	20.77562	75	86	0.872093023	2
110	19	1	5	1	3	6	4	4	1	1	4	6000	1500	2	2	5	2	1	5	2	1	1	3	5	2	1	1	1	160	55	21.48438	66	84	0.785714286	1
111	17	1	4	2	5	4	2	2	3	1	4	14000	3500	2	2	3	2	1	3	2	1	3	4	5	3	2	4	3	140	55	28.06122	68	74	0.918918919	2
112	16	1	3	1	4	3	4	4	1	1	4	5000	1250	2	1	5	2	1	5	2	1	1	3	4	3	1	2	1	140	45	22.95918	64	78	0.820512821	1
113	16	2	4	1	3	6	4	5	3	1	4	12000	3000	2	2	5	1	1	3	2	2	4	5	3	2	4	2	2	144	42	20.25463	68	80	0.85	2
114	18	2	4	2	3	6	3	4	1	1	4	8500	2125	2	1	5	2	2	5	2	1	3	4	5	3	2	4	1	161	52	20.06095	70	85	0.823529412	1
115	14	1	3	2	5	4	2	5	1	2	5	14000	2800	2	2	4	1	2	5	2	1	1	3	5	2	2	4	1	156	55	22.60026	74	87	0.850574713	1
116	11	2	6	1	1	1	4	5	2	1	4	5000	1250	2	2	5	2	1	5	2	1	1	3	5	2	1	1	1	146	36	16.88872	68	82	0.829268293	1
117	12	2	6	1	3	6	4	5	1	2	6	7000	1166.7	2	2	5	2	1	5	2	1	2	4	5	2	2	1	1	150	40	17.77778	64	78	0.820512821	1
118	10	1	6	1	6	2	3	3	1	1	4	6000	1500	2	2	3	1	1	2	2	1	3	4	5	3	2	3	2	130	32	18.93491	64	75	0.853333333	2
119	12	2	6	2	4	5	3	2	1	1	3	14000	4666.7	2	2	5	2	2	5	2	1	1	4	5	3	2	3	2	145	36	17.12247	64	80	0.8	2
120	16	2	4	2	3	3	3	5	2	1	4	11000	2750	2	2	3	2	1	4	2	2	3	4	5	3	2	2	2	168	64	22.67574	70	86	0.813953488	1
121	13	2	6	1	6	6	3	5	2	1	4	6000	1500	2	1	5	2	1	5	2	2	1	4	5	3	1	1	1	138	36	18.90359	60	72	0.833333333	1
122	11	1	6	1	3	3	4	4	1	1	4	4000	1000	2	2	5	2	1	5	2	1	1	3	5	2	2	2	2	144	42	20.25463	64	76	0.842105263	1
123	14	1	3	2	3	6	4	4	2	1	3	6500	2166.7	2	2	5	1	1	5	2	1	1	2	4	3	2	3	2	154	42	17.70956	74	86	0.860465116	2
124	12	1	6	1	1	1	4	4	1	1	4	7000	1750	2	1	5	1	2	5	2	1	1	3	5	2	1	1	1	152	45	19.47715	50	64	0.78125	1
125	18	2	4	1	3	3	3	5	2	1	3	9000	3000	2	2	2	2	1	4	2	1	1	4	5	3	1	3	2	160	50	19.53125	65	79	0.82278481	2
126	19	2	5	2	5	4	2	5	1	1	4	9000	2250	2	1	2	1	1	3	2	1	2	3	5	2	1	1	1	155	50	20.81165	74	90	0.822222222	2
127	13	1	3	1	2	2	4	4	2	1	3	6500	2166.7	2	1	5	1	1	5	2	1	1	2	4	2	1	2	1	145	42	19.97622	72	84	0.851190476	1
128	14	1	3	2	3	3	2	4	1	1	4	11000	2750	2	2	4	1	1	4	2	1	2	3	5	3	2	2	3	154	65	27.40766	75	80	0.9375	2
129	16	2	4	1	3	2	4	5	2	1	3	5000	1666.7	2	2	4	1	1	2	2	1	2	3	5	2	2	2	1	150	45	20	76	90	0.844444444	1
130	18	2	5	2	4	4	2	5	3	1	3	25000	8333.3	2	1	3	1	1	3	1	1	3	5	5	4	3	4	3	157	70	28.39872	85	90	0.944444444	2

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132	18	1	4	1	1	4	5	2	1	1	3	8000	2666.7	2	2	4	2	1	5	2	1	2	3	5	2	2	3	1	158	54	21.63115	70	84	0.833333333	2
133	19	2	5	1	3	4	4	5	1	1	4	7000	1750	2	1	3	1	2	5	2	2	3	2	5	2	1	3	1	160	50	19.53125	75	90	0.833333333	2
134	14	2	3	1	4	3	3	3	2	1	4	7000	1750	2	2	4	1	2	4	1	2	2	4	5	3	2	2	1	154	40	16.86625	64	76	0.842105263	1
135	14	1	3	2	3	4	3	2	1	1	4	9000	2250	2	1	3	1	2	3	2	1	1	2	5	3	2	4	2	147	46	21.28743	82	87	0.942528736	2
136	13	1	3	2	4	4	3	5	2	1	4	9500	2375	2	1	2	1	1	3	2	1	3	4	5	3	2	4	2	144	40	19.29012	66	78	0.846153846	1
137	18	1	4	2	5	5	1	1	1	1	4	20000	5000	2	2	2	3	1	3	2	1	3	3	5	4	2	4	2	160	54	21.09375	74	86	0.860465116	1
138	14	2	3	1	2	2	4	5	2	1	3	4500	1500	2	1	3	1	2	5	2	1	1	3	5	2	2	3	2	140	33	16.83673	58	69	0.84057971	2
139	15	1	3	1	3	2	4	4	1	1	3	7500	2500	2	2	3	2	1	4	2	1	1	2	5	2	2	3	2	160	42	16.40625	76	88	0.863636364	2
140	16	1	4	2	2	2	3	5	1	1	3	5000	1666.7	2	2	3	1	1	3	2	1	2	4	5	3	2	4	2	150	50	22.22222	74	86	0.860465116	1
141	14	1	3	1	3	1	4	5	1	1	4	9500	2375	2	1	4	2	1	4	1	1	2	4	5	3	2	2	2	155	44	18.31426	66	78	0.846153846	1
142	15	2	3	1	3	3	4	4	1	1	3	8000	2666.7	1	1	2	2	1	4	2	1	3	1	5	1	1	4	1	140	38	19.38776	64	76	0.842105263	2
143	12	1	6	4	4	3	5	1	1	3	3	6500	2166.7	2	2	3	1	1	4	2	1	1	2	5	3	1	4	2	140	39	19.89796	62	76	0.815789474	1
144	14	2	3	2	3	4	3	5	3	1	3	14000	4666.7	2	1	2	1	1	3	2	1	1	4	5	4	3	2	3	150	39	17.33333	54	66	0.818181818	1
145	19	1	5	1	5	5	1	1	1	1	3	14000	4666.7	2	2	2	1	1	2	2	1	3	4	5	3	3	2	3	155	65	27.05515	76	86	0.88372093	2
146	17	2	4	1	3	3	3	3	1	1	3	6000	2000	2	2	3	1	1	4	2	1	1	2	5	3	2	2	1	155	49	20.1873	72	76	0.947368421	2
147	17	1	4	2	4	4	3	5	2	1	4	8000	2000	2	1	3	1	1	2	2	1	3	4	5	3	1	4	1	165	50	18.36547	70	83	0.848484848	1
148	13	2	3	1	4	3	4	4	2	1	3	10000	3333.3	2	2	2	2	1	4	1	2	3	5	5	3	2	3	3	140	60	30.61224	76	84	0.904761905	2
149	16	2	4	2	4	4	3	5	3	1	4	7000	1750	2	2	2	2	2	3	2	1	4	3	5	4	3	3	2	165	43	15.79431	60	80	0.75	1
150	19	1	4	1	6	6	4	4	2	1	4	5000	1250	2	2	5	2	1	5	2	1	1	3	5	3	2	2	1	170	65	22.49135	77	96	0.802083333	2
151	15	1	3	1	2	1	4	4	2	1	3	8500	2833.3	2	2	5	1	1	4	2	1	2	4	5	2	2	3	2	150	80	35.55556	74	92	0.804347826	2
152	12	1	3	1	4	4	3	4	1	1	3	9000	3000	2	2	4	1	1	4	1	1	2	4	5	3	2	4	2	140	30	15.30612	57	68	0.838235294	1
153	16	1	4	2	5	5	1	2	1	1	4	17500	4375	2	2	2	1	1	3	2	1	2	4	5	3	3	4	3	165	60	22.03857	77	84	0.916666667	2
154	15	2	3	2	3	4	3	2	1	1	4	9000	2250	2	1	3	1	2	4	2	1	3	4	5	3	2	4	2	158	48	19.22769	74	87	0.850574713	2
155	17	1	4	1	3	3	3	4	2	1	4	6000	1500	2	2	2	2	1	3	2	1	3	4	5	2	2	4	1	170	65	22.49135	66	78	0.846153846	1
156	13	2	3	2	5	5	1	1	3	1	4	20000	5000	2	2	3	2	1	3	2	1	2	4	5	3	3	4	3	148	52	23.73996	76	88	0.863636364	1
157	12	2	3	1	3	6	4	5	1	1	4	8500	2125	2	1	3	2	1	4	2	1	1	4	5	2	1	4	1	140	35	17.85714	57	68	0.838235294	1
158	13	1	3	1	1	1	4	4	2	1	4	7000	1750	2	2	5	1	1	5	2	2	1	3	5	1	1	1	1	148	38	17.34843	58	70	0.828571429	2
159	18	2	4	2	5	5	1	1	1	1	4	16000	4000	2	2	3	2	1	3	2	1	1	4	5	3	3	4	2	160	58	22.65625	74	86	0.860465116	2
160	15	1	3	1	4	3	3	5	2	1	4	8500	2125	2	2	3	1	1	3	2	1	2	4	5	2	2	4	1	144	40	19.29012	68	80	0.85	1
161	13	2	3	1	3	6	3	4	1	1	4	7000	1750	2	2	5	1	1	5	2	2	3	4	5	2	1	3	2	150	40	17.77778	72	85	0.847058824	1
162	16	2	4	2	3	1	4	5	1	1	4	9000	2250	2	1	3	2	1	3	2	1	3	4	5	3	2	4	3	140	46	23.46939	68	80	0.85	2
163	16	1	3	1	4	3	3	5	1	2	5	11000	2200	2	2	2	1	2	3	2	1	3	4	5	3	2	2	2	150	45	20	63	76	0.828947368	1

164	12	2	3	2	4	4	4	4	2	1	4	5000	1250	2	2	5	2	1	5	2	1	2	5	2	1	1	1	1	148	40	18.2615	56	68	0.823529412	2
165	14	1	3	1	5	4	3	5	1	1	4	15000	3750	2	2	2	1	1	4	2	1	2	3	5	2	1	3	2	142	42	20.8292	74	83	0.891566265	1
166	13	1	3	2	5	4	4	5	3	1	3	22000	7333.3	2	2	2	1	2	4	2	1	2	4	5	3	1	4	2	152	49	20.99204	62	74	0.836734694	2
167	16	1	4	1	1	1	4	5	1	1	3	8000	2666.7	2	1	3	1	1	5	1	1	2	3	5	2	2	2	1	164	56	20.82094	75	88	0.852272727	1
168	15	1	3	2	4	5	4	4	1	1	4	6000	1500	2	2	3	2	2	4	2	1	1	3	4	3	1	3	1	152	46	19.90997	67	80	0.8375	2
169	14	1	3	1	5	4	2	3	1	1	3	9000	3000	2	2	3	1	1	2	1	1	2	3	5	3	2	2	2	154	40	16.86625	66	80	0.825	1
170	18	1	4	2	4	3	3	4	2	1	3	5000	1666.7	2	2	3	2	2	2	1	2	3	3	5	1	1	1	1	160	58	22.65625	68	85	0.804733728	1
171	15	2	3	1	4	3	3	5	1	1	4	6500	1625	2	2	3	1	2	4	2	1	3	2	5	3	2	2	1	150	48	21.33333	76	87	0.873563218	1
172	13	2	3	2	2	6	4	4	1	1	3	5500	1833.3	2	1	4	2	1	2	2	1	2	3	5	3	2	3	2	154	44	18.55288	66	82	0.804878049	2
173	12	1	3	1	3	4	3	4	1	1	4	7000	1750	2	2	2	1	2	4	1	1	2	3	5	3	2	3	2	140	36	18.36735	67	79	0.853503185	1
174	16	2	3	2	5	4	1	5	2	1	5	10000	2000	2	1	2	2	2	4	1	1	2	4	5	3	2	3	2	150	46	20.44444	64	75	0.859060403	2
175	10	2	6	2	4	3	3	5	1	1	3	5500	1833.3	2	1	2	1	1	4	2	1	3	4	5	3	2	4	2	136	36	19.46367	58	70	0.834532374	1
176	11	2	6	1	4	3	4	5	1	1	2	4500	2250	2	1	5	2	1	4	2	1	3	4	5	3	2	1	1	138	40	21.00399	60	75	0.805369128	1
177	18	2	5	2	5	4	2	5	1	1	4	12000	3000	2	1	3	2	1	5	2	1	3	4	5	3	3	4	3	150	44	19.55556	68	74	0.918918919	2
178	16	1	4	2	4	4	3	5	2	1	4	8000	2000	2	2	5	2	1	4	2	1	2	4	5	3	2	4	3	170	62	21.45329	68	81	0.839506173	2
179	15	1	3	2	4	6	3	5	2	1	4	6500	1625	2	1	2	1	1	3	2	1	2	4	5	3	3	2	1	170	60	20.76125	68	82	0.829268293	1
180	16	2	4	1	4	6	3	5	2	1	4	7000	1750	2	2	4	2	1	4	1	2	2	4	5	3	2	4	1	150	47	20.88889	65	84	0.773809524	2
181	13	1	3	2	4	4	3	5	1	1	4	7500	1875	2	2	2	3	1	1	4	2	1	2	4	5	2	1	2	154	44	18.55288	74	86	0.860465116	1
182	18	2	4	2	5	5	2	2	2	2	4	34000	8500	2	1	3	2	1	3	2	1	3	4	5	3	3	4	3	164	83	30.85961	82	86	0.953488372	2
183	19	1	5	2	5	6	2	5	1	1	3	9000	3000	2	2	2	1	1	4	2	1	3	4	5	3	2	3	3	174	50	16.51473	73	86	0.848837209	2
184	17	1	4	2	5	5	1	1	1	1	4	16000	4000	1	1	3	1	1	3	2	1	4	1	5	1	1	4	1	160	54	21.09375	58	72	0.805555556	2
185	13	1	3	2	4	4	3	5	1	1	4	6500	1625	2	2	3	2	1	4	2	1	2	4	3	2	1	3	2	156	45	18.49112	73	87	0.83908046	1
186	16	2	4	1	2	3	3	5	2	1	3	6500	2166.7	2	2	3	1	2	4	2	1	2	3	5	3	2	4	1	150	46	20.44444	68	84	0.80952381	1
187	16	2	4	1	3	3	3	5	2	1	3	6000	2000	2	2	5	2	1	3	2	1	2	4	5	3	2	4	1	160	62	24.21875	74	89	0.831460674	1
188	13	2	3	1	3	3	2	3	1	1	3	5500	1833.3	2	2	3	1	1	4	2	1	2	4	5	2	3	2	2	160	52	20.3125	63	80	0.79245283	1
189	11	2	6	2	4	3	3	5	1	1	4	24000	6000	1	2	2	2	1	4	2	1	2	5	5	3	3	4	2	146	40	18.76525	64	86	0.744186047	2
190	13	1	3	2	5	4	2	5	1	2	5	11000	2200	2	2	4	2	2	5	2	2	1	3	5	2	2	4	1	157	57	23.12467	76	88	0.863636364	1
191	16	2	4	1	1	1	4	5	2	1	4	5000	1250	2	2	5	2	1	5	2	1	1	3	5	2	1	1	1	146	56	26.27135	68	80	0.85	2
192	12	2	6	1	3	6	4	5	1	2	6	7500	1250	2	2	5	2	1	5	2	1	2	4	5	2	2	1	1	150	40	17.77778	66	78	0.846153846	1
193	17	2	4	2	3	3	3	5	2	1	4	10000	2500	2	2	4	2	1	3	1	1	2	5	5	4	3	1	1	158	78	31.24499	89	94	0.946808511	2
194	17	2	4	2	4	4	2	2	2	1	3	9000	3000	2	2	3	1	1	4	2	1	2	4	5	2	2	2	2	156	57	23.42209	63	75	0.845637584	1
195	12	2	6	1	3	3	4	5	2	1	4	7000	1750	2	2	3	2	1	4	2	2	1	4	5	2	1	1	1	150	51	22.66667	63	79	0.797468354	1
196	15	1	3	2	3	4	4	5	2	1	4	8000	2000	2	1	4	1	1	4	2	2	1	5	5	3	2	2	2	160	75	29.29688	86	94	0.914893617	1

197	18	1	4	1	4	1	4	4	3	1	4	5000	1250	2	1	2	2	1	4	2	1	1	4	5	3	2	2	1	174	66	21.79945	79	94	0.840425532	2
198	12	1	6	2	4	3	3	5	1	1	4	8000	2000	2	2	2	1	2	2	1	1	5	5	3	3	3	2	2	134	40	22.27668	76	80	0.95	2
199	14	1	4	3	3	1	4	5	1	1	3	4000	1333.3	2	2	5	2	3	5	2	1	1	4	5	2	2	1	1	140	48	24.4898	64	76	0.842105263	2
200	13	2	3	3	4	3	4	5	1	1	6	7400	1233.3	1	2	2	2	1	5	2	3	1	5	1	1	1	1	1	140	40	20.40816	65	78	0.833333333	1
201	12	1	3	1	3	3	4	5	1	1	3	11000	3666.7	2	1	2	1	1	3	2	1	2	3	5	3	2	4	2	135	34	18.65569	66	77	0.857142857	1
202	11	2	6	1	3	2	4	4	2	1	4	5000	1250	2	2	3	1	1	4	2	1	2	3	5	2	1	3	2	144	44	21.21914	64	79	0.810126582	2
203	18	2	4	2	3	3	2	2	2	2	4	7500	1875	2	2	3	2	2	2	1	2	3	3	5	1	1	1	1	154	58	24.45606	69	79	0.873417722	2
204	14	2	3	2	4	3	3	5	1	1	4	3500	875	2	2	1	2	1	2	2	1	1	2	5	2	2	2	2	145	50	23.78121	76	87	0.873563218	2
205	14	1	3	1	4	3	3	5	2	1	4	6500	1625	2	1	3	2	1	4	1	2	1	4	5	3	1	4	3	144	42	20.25463	75	83	0.903614458	2
206	10	2	6	2	4	3	3	5	1	1	4	14000	3500	1	2	2	2	1	4	2	1	2	5	5	3	3	4	2	148	37	16.89189	66	80	0.825	2
207	11	1	4	2	4	3	4	5	2	1	4	12500	3125	2	2	3	2	1	4	2	1	2	4	5	3	3	4	2	148	40	18.2615	65	79	0.82278481	1
208	16	2	4	4	2	4	3	4	1	1	3	8000	2666.7	2	1	3	2	2	4	2	1	2	4	5	3	2	2	2	155	51	21.22789	70	83	0.843373494	1
209	14	2	3	1	5	3	2	5	1	1	3	9000	3000	2	2	2	1	1	3	1	1	2	4	5	3	2	1	1	156	42	17.25838	64	80	0.8	2
210	16	2	2	1	3	3	4	4	2	1	4	6000	1500	2	1	5	1	1	5	2	1	1	3	5	1	1	3	1	174	50	16.51473	58	74	0.783783784	2
211	14	1	3	4	4	3	4	1	1	4	4	4000	1000	2	2	4	1	2	4	2	1	2	3	5	2	2	3	2	158	56	22.4323	74	854	0.086651054	1
212	15	2	3	4	3	4	5	1	1	4	4	6000	1500	2	1	5	1	1	4	1	2	3	4	5	2	2	4	1	156	60	24.65483	66	75	0.88	2
213	17	2	4	1	3	2	2	5	1	2	4	9500	2375	2	1	3	1	1	4	2	1	4	4	5	3	1	4	3	146	50	23.45656	61	77	0.797385621	1
214	14	1	3	1	4	3	3	5	1	1	4	10000	2500	2	2	4	2	1	4	2	1	3	4	5	3	2	3	3	152	48	20.77562	66	80	0.825	2
215	19	2	5	2	4	3	4	4	1	1	4	4000	1000	2	2	5	1	1	5	2	1	1	3	5	2	2	1	1	155	50	20.81165	66	80	0.825	2
216	16	1	4	2	4	3	3	5	1	1	4	12000	3000	2	1	3	2	1	3	2	2	3	4	5	3	2	3	2	142	45	22.317	66	75	0.88	2
217	15	1	3	1	5	5	1	1	1	1	4	30000	7500	2	2	3	2	1	4	2	2	1	4	5	3	2	4	2	140	45	22.95918	65	75	0.866666667	1
218	19	2	5	2	3	3	2	5	2	1	4	8000	2000	2	1	4	2	1	4	2	1	2	4	5	3	2	4	2	166	76	27.5802	78	88	0.886363636	1
219	18	1	4	2	5	4	2	5	1	1	4	10000	2500	2	1	1	2	2	5	2	1	1	4	5	3	1	4	2	170	74	25.60554	86	88	0.977272727	2
220	17	1	5	2	5	5	2	5	2	1	3	11000	3666.7	2	2	2	2	3	5	2	1	1	4	5	3	1	3	2	166	44	15.96748	68	79	0.860759494	1
221	18	2	4	1	3	3	4	5	2	1	4	8000	2000	2	2	5	3	2	5	2	1	1	4	5	3	2	4	1	166	55	19.95936	64	72	0.888888889	1
222	17	2	4	2	4	3	4	5	1	1	3	9000	3000	2	1	3	3	1	5	2	2	1	4	5	2	2	4	2	164	70	26.02617	66	78	0.846153846	2
223	14	1	3	2	5	4	2	5	1	1	5	50000	10000	2	2	3	1	1	2	1	2	5	5	5	4	3	4	3	150	65	28.88889	87	90	0.966666667	2
224	13	2	3	2	2	3	4	5	2	1	3	5500	1833.3	2	1	3	1	1	5	2	1	2	3	5	2	1	1	3	150	55	24.44444	66	78	0.846153846	1
225	14	1	3	1	3	1	4	5	1	1	4	4000	1000	2	1	3	1	1	4	2	1	2	3	5	2	3	1	1	162	64	24.38653	76	89	0.853932584	1
226	14	2	3	2	5	5	1	1	1	1	4	10000	2500	2	2	3	1	1	3	1	1	1	5	5	3	3	2	2	164	70	26.02617	69	78	0.884615385	2
227	15	1	3	1	4	3	4	4	2	1	3	7000	2333.3	2	1	5	2	1	5	2	1	1	3	5	3	2	1	1	163	62	23.33547	70	79	0.886075949	1
228	18	1	5	1	5	4	1	5	1	1	4	9000	2250	2	1	3	2	1	3	2	2	3	4	5	2	3	2	4	162	60	22.86237	70	84	0.833333333	1
229	13	2	3	2	4	1	3	5	3	1	3	6000	2000	2	2	4	2	1	3	1	2	3	4	5	2	1	3	2	155	61	25.39022	80	85	0.941176471	2

230	16	2	4	1	2	2	4	5	2	1	4	8000	2000	2	2	3	2	1	4	2	2	3	5	5	3	2	3	3	152	50	21.64127	74	88	0.840909091	1
231	15	1	4	2	4	3	2	5	2	1	4	50000	12500	2	1	3	2	1	4	2	1	2	5	5	3	2	4	2	160	58	22.65625	83	86	0.965116279	2
232	13	2	3	1	3	2	3	5	1	1	3	6500	2166.7	2	1	3	2	1	5	2	2	2	4	5	2	1	2	1	140	38	19.38776	68	82	0.829268293	1
233	15	1	3	1	3	2	4	5	1	1	4	8000	2000	2	2	2	2	1	5	2	1	2	5	5	2	2	1	1	150	46	20.44444	67	82	0.817073171	1
234	17	1	4	1	3	3	4	4	1	1	3	9000	3000	2	1	2	2	1	4	2	2	1	4	5	3	3	1	3	158	53	21.23057	71	82	0.865853659	1
235	17	1	4	1	1	1	4	5	1	2	4	7250	1812.5	2	1	5	2	1	4	2	2	3	4	5	3	3	3	2	156	41	16.84747	66	75	0.88	1
236	16	1	4	1	3	3	4	5	2	2	5	25000	5000	2	2	2	2	1	4	2	2	1	4	5	2	2	3	1	164	46	17.10291	72	84	0.857142857	1
237	15	1	3	1	3	3	4	5	1	1	4	8000	2000	2	2	3	1	1	5	2	1	1	5	5	3	3	3	2	148	45	20.54419	65	80	0.8125	2
238	15	1	3	2	4	4	3	4	1	1	4	6000	1500	2	2	1	1	1	5	1	1	2	4	5	3	2	2	1	164	48	17.84652	67	80	0.8375	1
239	14	2	3	1	2	6	4	4	1	1	4	9000	2250	2	2	3	2	1	4	2	1	2	1	3	5	2	2	2	160	44	17.1875	58	70	0.828571429	2
240	11	1	6	4	4	3	3	4	1	1	4	10000	2500	2	2	5	1	2	5	2	2	3	5	3	2	2	2	2	140	44	22.44898	58	80	0.725	1
241	10	2	6	2	4	4	3	3	3	1	4	9000	2250	2	1	4	1	1	3	1	2	2	4	5	3	2	4	2	138	40	21.00399	54	66	0.818181818	1
242	16	2	4	1	3	3	4	5	2	2	5	18000	3600	2	2	2	2	1	4	2	2	1	4	5	2	2	3	1	154	60	25.29938	70	81	0.864197531	2
243	15	2	3	1	3	3	4	5	1	1	4	10000	2500	2	2	3	1	1	5	2	1	1	5	5	3	3	3	2	146	40	18.76525	60	74	0.810810811	2
244	13	2	3	1	2	3	4	5	1	2	4	9000	2250	2	1	2	2	1	5	2	1	2	5	5	2	2	1	1	145	43	20.45184	64	76	0.842105263	1
245	18	1	4	2	3	2	4	5	2	1	4	10000	2500	2	2	4	2	1	5	2	1	2	5	5	3	3	4	2	150	50	22.22222	68	83	0.824242424	2
246	13	1	3	2	4	3	2	5	2	2	6	25000	4166.7	2	1	4	2	1	3	2	1	3	5	5	3	2	3	3	156	78	32.05128	96	100	0.96	2
247	14	2	3	2	4	3	3	5	1	1	4	9500	2375	2	2	1	2	1	2	2	1	1	5	5	3	3	2	3	145	66	31.3912	76	85	0.894117647	2
248	13	1	3	1	4	3	3	4	2	1	4	8000	2000	2	1	3	2	1	4	1	2	1	4	5	3	1	4	3	138	42	22.05419	70	83	0.843373494	1
249	17	2	4	2	4	3	4	4	1	1	4	8000	2000	2	1	2	2	1	4	2	1	2	3	5	2	3	3	2	166	74	26.85441	86	94	0.914893617	2
250	15	1	3	2	4	4	3	5	1	1	3	5000	1666.7	2	2	5	2	1	4	1	2	2	3	5	3	2	2	2	150	50	22.22222	70	84	0.833333333	1
251	12	1	3	2	1	3	4	4	2	1	4	7000	1750	2	1	3	1	1	4	2	1	1	2	5	3	1	2	1	154	47	19.81784	69	81	0.851851852	1
252	16	2	3	1	1	1	3	4	3	1	5	8000	1600	2	1	3	2	1	4	2	1	2	3	5	3	2	1	1	156	50	20.54569	74	84	0.886227545	2
253	18	2	4	2	3	3	3	5	2	1	4	9500	2375	2	2	4	2	1	3	1	1	2	5	5	4	3	1	1	158	78	31.24499	89	94	0.946808511	2
254	18	2	4	2	4	4	2	2	2	1	3	8000	2666.7	2	2	3	1	1	4	2	1	2	4	5	2	2	2	2	160	55	21.48438	66	78	0.83974359	1
255	13	2	3	1	3	3	4	5	2	1	4	6800	1700	2	2	3	2	1	4	2	2	1	4	5	2	1	1	1	156	50	20.54569	65	80	0.8125	1
256	14	1	3	2	3	4	4	5	2	1	4	6500	1625	2	1	4	1	1	4	2	2	1	5	5	3	2	2	2	165	80	29.38476	86	96	0.895833333	2
257	13	2	6	1	3	6	4	5	1	2	4	8000	2000	2	2	5	2	1	5	2	1	2	4	5	2	2	1	1	150	40	17.77778	64	78	0.820512821	1
258	11	1	6	1	6	2	3	3	1	1	4	6500	1625	2	2	3	1	1	2	2	1	3	4	5	3	2	3	2	132	32	18.36547	66	77	0.857142857	2
259	13	2	6	2	4	5	3	2	1	1	3	13000	4333.3	2	2	5	2	2	5	2	1	1	4	5	3	2	3	2	146	37	17.35785	65	81	0.802469136	2
260	15	2	4	2	3	3	3	5	2	1	4	10000	2500	2	2	3	2	1	4	2	2	3	4	5	3	2	2	2	168	64	22.67574	70	86	0.813953488	1
261	13	2	6	1	6	6	3	5	2	1	4	6000	1500	2	1	5	2	1	5	2	2	1	4	5	3	1	1	1	138	36	18.90359	60	72	0.833333333	1
262	11	1	6	1	3	3	4	4	1	1	4	4000	1000	2	2	5	2	1	5	2	1	1	3	5	2	2	2	2	144	42	20.25463	64	76	0.842105263	1

263	14	1	3	2	3	6	4	4	2	1	3	7000	2333.3	2	2	5	1	1	5	2	1	1	2	4	3	2	3	2	154	42	17.70956	74	86	0.860465116	2
264	11	1	6	1	1	1	4	4	1	1	4	8000	2000	2	1	5	1	2	5	2	1	1	3	5	2	1	1	1	154	45	18.97453	50	64	0.78125	1
265	19	2	4	1	3	3	3	5	2	1	3	60000	20000	2	2	2	2	1	4	2	1	1	4	5	3	1	3	2	162	54	20.57613	66	80	0.825	2
266	18	2	5	2	5	4	2	5	1	1	4	8500	2125	2	1	2	1	1	3	2	1	2	3	5	2	1	1	1	155	53	21.85224	75	90	0.827777778	2
267	12	1	3	1	2	2	4	4	2	1	3	50000	16667	2	1	5	1	1	5	2	1	1	2	4	2	1	2	1	146	44	20.64177	70	84	0.827380952	1
268	14	2	3	2	3	3	2	4	1	1	4	8000	2000	2	2	4	1	1	4	2	1	2	3	5	3	2	2	3	146	64	30.02439	65	77	0.849673203	2
269	16	1	3	2	3	6	4	5	1	1	4	8000	2000	2	2	2	2	1	5	2	1	2	5	5	2	2	3	2	146	46	21.58003	68	80	0.85	1
270	18	2	5	1	3	6	3	5	2	1	4	10000	2500	2	1	5	1	1	2	2	2	2	5	5	3	2	3	2	156	66	27.12032	74	80	0.93081761	2
271	16	1	4	1	3	3	4	4	2	2	6	7000	1166.7	2	2	5	2	1	4	2	2	1	3	5	3	2	3	2	164	46	17.10291	72	84	0.857142857	1
272	15	2	3	1	4	4	4	4	1	1	4	8500	2125	2	2	5	1	4	2	1	2	4	5	2	1	1	1	1	150	48	21.33333	66	76	0.868421053	2
273	15	1	3	2	4	3	4	4	2	1	3	9000	3000	2	2	3	2	2	5	2	2	1	4	5	2	2	3	1	154	46	19.39619	65	77	0.844155844	2
274	17	1	4	2	3	3	4	4	1	1	4	9500	2375	2	2	3	1	1	5	2	1	1	2	5	1	1	3	1	160	52	20.3125	70	84	0.833333333	2
275	12	2	3	2	3	3	3	5	1	1	4	15000	3750	2	1	5	2	1	3	2	1	3	4	5	3	2	1	2	156	77	31.64037	88	100	0.88	2
276	14	2	3	2	3	6	3	5	1	1	4	25000	6250	2	2	5	2	1	4	2	1	3	5	5	3	2	4	3	146	66	30.96266	76	78	0.974358974	2
277	16	2	3	1	4	4	2	5	2	1	3	6800	2266.7	2	1	5	1	2	5	2	1	1	3	5	2	2	2	2	155	40	16.64932	74	89	0.831460674	2
278	10	2	6	2	5	3	1	5	2	1	4	20000	5000	2	2	3	2	1	4	2	2	3	5	5	3	2	3	2	142	40	19.83733	65	74	0.878378378	1
279	13	1	3	2	3	6	4	5	1	1	3	7500	2500	2	2	5	2	1	5	2	1	3	4	5	2	1	1	1	150	42	18.66667	70	84	0.833333333	2
280	15	1	3	1	4	3	3	5	2	1	4	8500	2125	2	2	3	1	1	3	2	1	2	4	5	2	2	4	1	144	40	19.29012	68	80	0.85	1
281	13	2	3	1	3	6	3	4	1	1	4	7000	1750	2	2	5	1	1	5	2	2	3	4	5	2	1	3	2	150	40	17.77778	72	85	0.847058824	1
282	15	2	4	2	3	1	4	5	1	1	4	9000	2250	2	1	3	2	1	3	2	1	3	4	5	3	2	4	3	140	46	23.46939	68	80	0.85	2
283	13	2	3	1	4	3	3	5	1	2	5	11000	2200	2	2	2	1	2	3	2	1	3	4	5	3	2	2	2	150	45	20	63	76	0.828947368	1
284	14	1	3	2	4	4	4	4	2	1	4	5000	1250	2	2	5	2	1	5	2	1	2	5	2	1	1	1	1	148	40	18.2615	56	68	0.823529412	2
285	15	2	3	1	5	4	3	5	1	1	4	15000	3750	2	2	2	1	1	4	2	1	2	3	5	2	1	3	2	142	42	20.8292	74	83	0.891566265	1
286	12	1	3	2	5	4	4	5	3	1	3	22000	7333.3	2	2	2	1	2	4	2	1	2	4	5	3	1	4	2	152	49	20.99204	62	74	0.836734694	2
287	17	1	4	1	1	1	4	5	1	1	3	8000	2666.7	2	1	3	1	1	5	1	1	2	3	5	2	2	2	1	164	56	20.82094	75	88	0.852272727	1
288	16	2	3	2	4	5	4	4	1	1	4	6000	1500	2	2	3	2	2	4	2	1	1	3	4	3	1	3	1	150	44	19.55556	66	82	0.804878049	1
289	15	1	3	1	5	4	2	3	1	1	3	7000	2333.3	2	2	3	1	1	2	1	1	2	3	5	3	2	2	2	154	40	16.86625	66	80	0.825	1
290	18	2	4	2	4	3	3	4	2	1	3	5000	1666.7	2	2	3	2	2	2	1	2	3	3	5	1	1	1	1	165	64	23.50781	68	81	0.844720497	1
291	16	1	3	1	4	3	3	5	1	1	4	6800	1700	2	2	3	1	2	4	2	1	3	2	5	3	2	2	1	160	52	20.3125	78	87	0.896551724	1
292	13	1	3	2	2	6	4	4	1	1	3	5500	1833.3	2	1	4	2	1	2	2	1	2	3	5	3	2	3	2	148	44	20.08766	66	80	0.825	2
293	14	1	3	1	3	4	3	4	1	1	4	7000	1750	2	2	2	1	2	4	1	1	2	3	5	3	2	3	2	140	36	18.36735	67	79	0.853503185	1
294	16	2	3	2	5	4	1	5	2	1	5	11000	2200	2	1	2	2	2	4	1	1	2	4	5	3	2	3	2	154	48	20.2395	64	76	0.842105263	2
295	11	2	6	2	4	3	3	5	1	1	3	4500	1500	2	1	2	1	1	4	2	1	3	4	5	3	2	4	2	136	36	19.46367	58	70	0.834532374	1

296	10	2	6	1	4	3	4	5	1	1	2	5000	2500	2	1	5	2	1	4	2	1	3	4	5	3	2	1	1	138	40	21.00399	60	75	0.805369128	1
297	17	2	5	2	5	4	2	5	1	1	4	12000	3000	2	1	3	2	1	5	2	1	3	4	5	3	3	4	3	150	44	19.55556	68	74	0.918918919	2
298	14	1	4	2	4	4	3	5	2	1	4	8000	2000	2	2	5	2	1	4	2	1	2	4	5	3	2	4	3	170	62	21.45329	68	81	0.839506173	2
299	16	1	3	2	4	6	3	5	2	1	4	6500	1625	2	1	2	1	1	3	2	1	2	4	5	3	3	2	1	170	60	20.76125	68	82	0.829268293	1
300	15	2	4	1	4	6	3	5	2	1	4	7000	1750	2	2	4	2	1	4	1	2	2	4	5	3	2	4	1	155	47	19.56296	68	84	0.80952381	2
301	12	1	3	2	4	4	3	5	1	1	4	7500	1875	2	2	2	3	1	1	4	2	1	2	4	5	2	1	2	154	44	18.55288	74	86	0.860465116	1
302	18	2	4	2	5	5	2	2	2	2	4	20000	5000	2	1	3	2	1	3	2	1	3	4	5	3	3	4	3	164	86	31.97501	80	86	0.930232558	2
303	19	1	5	2	5	6	2	5	1	1	3	9000	3000	2	2	2	1	1	4	2	1	3	4	5	3	2	3	3	172	54	18.25311	70	85	0.823529412	2
304	15	1	4	2	5	5	1	1	1	1	4	10000	2500	1	1	3	1	1	3	2	1	4	1	5	1	1	4	1	160	54	21.09375	58	72	0.805555556	2
305	14	1	3	2	4	4	3	5	1	1	4	6500	1625	2	2	3	2	1	4	2	1	2	4	3	2	1	3	2	156	45	18.49112	73	87	0.83908046	1
306	16	2	4	1	2	3	3	5	2	1	3	6500	2166.7	2	2	3	1	2	4	2	1	2	3	5	3	2	4	1	150	46	20.44444	68	84	0.80952381	1
307	15	2	4	1	3	3	3	5	2	1	3	6000	2000	2	2	5	2	1	3	2	1	2	4	5	3	2	4	1	160	62	24.21875	74	89	0.831460674	1
308	11	2	3	1	3	3	2	3	1	1	3	5500	1833.3	2	2	3	1	1	4	2	1	2	4	5	2	3	2	2	160	52	20.3125	63	80	0.79245283	1
309	12	2	6	2	4	3	3	5	1	1	4	24000	6000	1	2	2	2	1	4	2	1	2	5	5	3	3	4	2	146	40	18.76525	64	86	0.744186047	2
310	11	1	3	2	5	4	2	5	1	2	5	11000	2200	2	2	4	2	2	5	2	2	1	3	5	2	2	4	1	157	57	23.12467	76	88	0.863636364	1
311	15	2	4	1	1	1	4	5	2	1	4	5000	1250	2	2	5	2	1	5	2	1	1	3	5	2	1	1	1	146	56	26.27135	68	80	0.85	2
312	12	2	6	1	3	6	4	5	1	2	6	7500	1250	2	2	5	2	1	5	2	1	2	4	5	2	2	1	1	150	40	17.77778	66	78	0.846153846	1
313	15	2	4	2	3	3	3	5	2	1	4	10000	2500	2	2	4	2	1	3	1	1	2	5	5	4	3	1	1	158	78	31.24499	89	94	0.946808511	2
314	16	2	4	2	4	4	2	2	2	1	3	9000	3000	2	2	3	1	1	4	2	1	2	4	5	2	2	2	2	156	57	23.42209	63	75	0.845637584	1
315	11	2	6	1	3	3	4	5	2	1	4	7000	1750	2	2	3	2	1	4	2	2	1	4	5	2	1	1	1	150	51	22.66667	63	79	0.797468354	1
316	14	1	3	2	3	4	4	5	2	1	4	8000	2000	2	1	4	1	1	4	2	2	1	5	5	3	2	2	2	160	75	29.29688	86	94	0.914893617	1
317	19	1	5	1	4	1	4	4	3	1	4	5000	1250	2	1	2	2	1	4	2	1	1	4	5	3	2	2	1	174	66	21.79945	79	94	0.840425532	2
318	11	1	6	2	4	3	3	5	1	1	4	8000	2000	2	2	2	1	2	2	1	1	5	5	3	3	3	2	2	134	40	22.27668	76	80	0.95	2
319	14	1	4	3	3	1	4	5	1	1	3	4000	1333.3	2	2	5	2	3	5	2	1	1	4	5	2	2	1	1	140	48	24.4898	64	76	0.842105263	2
320	11	2	3	3	4	3	4	5	1	1	6	7400	1233.3	1	2	2	2	1	5	2	3	1	5	1	1	1	1	1	140	40	20.40816	65	78	0.833333333	1
321	13	1	3	1	3	3	4	5	1	1	3	11000	3666.7	2	1	2	1	1	3	2	1	2	3	5	3	2	4	2	135	34	18.65569	66	77	0.857142857	1
322	10	2	6	1	3	2	4	4	2	1	4	5000	1250	2	2	3	1	1	4	2	1	2	3	5	2	1	3	2	144	44	21.21914	64	79	0.810126582	2
323	19	2	4	2	3	3	2	2	2	2	4	7500	1875	2	2	3	2	2	2	1	2	3	3	5	1	1	1	1	154	58	24.45606	69	79	0.873417722	2
324	13	2	3	2	4	3	3	5	1	1	4	3500	875	2	2	1	2	1	2	2	1	1	2	5	2	2	2	2	145	50	23.78121	76	87	0.873563218	2
325	12	1	3	1	4	3	3	5	2	1	4	6500	1625	2	1	3	2	1	4	1	2	1	4	5	3	1	4	3	144	42	20.25463	75	83	0.903614458	2
326	11	2	6	2	4	3	3	5	1	1	4	14000	3500	1	2	2	2	1	4	2	1	2	5	5	3	3	4	2	148	37	16.89189	66	80	0.825	2
327	10	1	4	2	4	3	4	5	2	1	4	12500	3125	2	2	3	2	1	4	2	1	2	4	5	3	3	4	2	148	40	18.2615	65	79	0.82278481	1
328	11	2	4	4	2	4	3	4	1	1	3	8000	2666.7	2	1	3	2	2	4	2	1	2	4	5	3	2	2	2	155	51	21.22789	70	83	0.843373494	1

329	13	2	3	1	5	3	2	5	1	1	3	9000	3000	2	2	2	1	1	3	1	1	2	4	5	3	2	1	1	156	42	17.25838	64	80	0.8	2
330	17	2	2	1	3	3	4	4	2	1	4	6000	1500	2	1	5	1	1	5	2	1	1	3	5	1	1	3	1	174	50	16.51473	58	74	0.783783784	2
331	15	1	3	4	4	3	4	1	1	4	4	4000	1000	2	2	4	1	2	4	2	1	2	3	5	2	2	3	2	158	56	22.4323	74	854	0.086651054	1
332	16	2	3	4	3	4	5	1	1	4	4	6000	1500	2	1	5	1	1	4	1	2	3	4	5	2	2	4	1	156	60	24.65483	66	75	0.88	2
333	16	2	4	1	3	2	2	5	1	2	4	9500	2375	2	1	3	1	1	4	2	1	4	4	5	3	1	4	3	146	50	23.45656	61	77	0.797385621	1
334	13	1	3	1	4	3	3	5	1	1	4	10000	2500	2	2	4	2	1	4	2	1	3	4	5	3	2	3	3	152	48	20.77562	66	80	0.825	2
335	15	2	3	1	1	1	3	4	3	1	5	5000	1000	2	1	3	2	1	4	2	1	2	3	5	3	2	1	1	155	48	19.97919	70	82	0.853658537	1
336	17	2	4	2	3	3	3	5	2	1	4	10000	2500	2	2	4	2	1	3	1	1	2	5	5	4	3	1	1	158	78	31.24499	89	94	0.946808511	2
337	19	2	5	2	4	4	2	2	2	1	3	8000	2666.7	2	2	3	1	1	4	2	1	2	4	5	2	2	2	2	160	55	21.48438	63	78	0.807692308	1
338	14	2	3	1	3	3	4	5	2	1	4	6800	1700	2	2	3	2	1	4	2	2	1	4	5	2	1	1	1	156	50	20.54569	65	80	0.8125	1
339	16	1	3	2	3	4	4	5	2	1	4	8000	2000	2	1	4	1	1	4	2	2	1	5	5	3	2	2	2	160	75	29.29688	86	94	0.914893617	2
340	18	1	5	1	4	1	4	4	3	1	5	8000	1600	2	1	2	2	1	4	2	1	1	4	5	3	2	2	1	170	65	22.49135	78	92	0.847826087	1
341	10	1	6	2	4	3	3	5	1	1	4	6500	1625	2	2	2	1	2	2	1	1	5	5	3	3	3	2	2	130	38	22.48521	79	78	1.012820513	2
342	12	1	6	2	3	1	4	5	1	1	3	4000	1333.3	2	2	5	2	3	5	2	1	1	4	5	2	2	1	1	130	32	18.93491	60	73	0.821917808	1
343	11	2	3	2	4	3	4	5	1	1	6	7400	1233.3	1	2	2	2	1	5	2	3	1	5	1	1	1	1	1	140	40	20.40816	65	78	0.833333333	1
344	14	1	6	2	4	3	3	5	1	1	4	11000	2750	2	2	2	2	1	4	2	1	2	5	5	3	3	2	2	120	35	24.30556	57	68	0.838235294	1
345	16	1	3	2	5	4	1	5	2	2	5	14000	2800	2	1	2	1	1	2	2	1	2	5	5	4	3	2	3	155	60	24.97399	84	87	0.965517241	2
346	10	2	6	1	4	3	3	5	1	1	4	6000	1500	2	2	2	1	1	5	2	2	1	4	5	2	2	1	1	146	35	16.41959	66	80	0.825	1
347	12	2	6	2	1	1	4	5	1	1	4	5000	1250	2	2	5	1	1	5	2	1	1	3	4	5	2	1	1	142	40	19.83733	65	78	0.833333333	2
348	11	2	6	2	4	2	3	5	2	1	4	4800	1200	2	2	3	2	1	5	2	1	1	3	5	2	2	2	1	134	46	25.61818	68	80	0.85	1
349	14	1	3	2	4	5	3	1	1	1	4	11000	2750	2	2	3	1	1	4	2	1	1	4	5	3	2	2	1	154	50	21.08281	78	86	0.906976744	2
350	11	2	6	1	1	1	4	4	2	1	4	3000	750	2	2	5	2	1	4	2	2	1	3	4	1	1	1	1	134	38	21.16284	68	80	0.85	1
351	13	1	6	2	6	2	4	5	2	1	3	4000	1333.3	2	2	5	2	1	4	1	1	1	3	5	2	1	1	1	135	32	17.5583	66	78	0.846153846	1
352	10	1	6	2	3	6	4	5	2	1	4	9500	2375	2	1	2	1	1	4	2	1	2	4	5	3	3	1	1	160	40	15.625	68	79	0.860759494	1
353	19	1	4	1	2	2	4	5	1	1	3	2000	666.67	2	2	5	1	2	5	2	1	1	3	5	2	2	1	1	167	65	23.30668	74	86	0.860465116	1
354	13	1	3	1	2	2	4	4	1	1	4	3000	750	2	2	5	3	1	5	2	2	1	3	5	1	1	1	1	160	60	23.4375	68	79	0.860759494	1
355	15	2	3	1	5	4	1	5	3	1	4	25000	6250	2	2	1	2	1	3	2	1	3	5	5	4	3	3	4	140	62	31.63265	84	86	0.976744186	2
356	19	1	5	1	3	3	2	5	2	1	3	15000	5000	2	1	2	2	1	3	2	1	3	5	5	3	2	3	2	140	45	22.95918	64	75	0.853333333	1
357	18	2	4	2	3	3	4	4	2	2	7	7000	1000	2	1	1	3	1	2	1	1	3		5	3	2	3	2	144	55	26.52392	64	78	0.820512821	2
358	16	1	3	1	4	3	3	5	2	1	4	8500	2125	2	2	3	1	1	3	2	1	2	4	5	2	2	4	1	144	40	19.29012	68	80	0.85	1
359	12	2	3	1	3	6	3	4	1	1	4	7000	1750	2	2	5	1	1	5	2	2	3	4	5	2	1	3	2	150	40	17.77778	72	85	0.847058824	1
360	15	2	4	2	3	1	4	5	1	1	4	9000	2250	2	1	3	2	1	3	2	1	3	4	5	3	2	4	3	140	46	23.46939	68	80	0.85	2
361	15	1	3	1	4	3	3	5	1	2	5	11000	2200	2	2	2	1	2	3	2	1	3	4	5	3	2	2	2	150	45	20	63	76	0.828947368	1

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363	13	1	3	1	5	4	3	5	1	1	4	15000	3750	2	2	2	1	1	4	2	1	2	3	5	2	1	3	2	142	42	20.8292	74	83	0.891566265	1
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365	14	2	4	1	1	1	4	5	1	1	3	8000	2666.7	2	1	3	1	1	5	1	1	2	3	5	2	2	2	1	164	56	20.82094	75	88	0.852272727	1
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367	15	1	3	1	5	4	2	3	1	1	3	9000	3000	2	2	3	1	1	2	1	1	2	3	5	3	2	2	2	154	40	16.86625	66	80	0.825	1
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369	15	1	3	2	5	4	1	5	2	2	5	14000	2800	2	1	2	1	1	2	2	1	2	5	5	4	3	2	3	155	60	24.97399	84	87	0.965517241	2
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371	10	2	6	2	1	1	4	5	1	1	4	5000	1250	2	2	5	1	1	5	2	1	1	3	4	5	2	1	1	142	40	19.83733	65	78	0.833333333	2
372	11	2	6	2	4	2	3	5	2	1	4	4800	1200	2	2	3	2	1	5	2	1	1	3	5	2	2	2	1	134	46	25.61818	68	80	0.85	1
373	14	1	3	2	4	5	3	1	1	1	4	11000	2750	2	2	3	1	1	4	2	1	1	4	5	3	2	2	1	154	50	21.08281	78	86	0.906976744	2
374	11	2	6	1	1	1	4	4	2	1	4	3000	750	2	2	5	2	1	4	2	2	1	3	4	1	1	1	1	134	38	21.16284	68	80	0.85	1
375	11	1	6	2	6	2	4	5	2	1	3	4000	1333.3	2	2	5	2	1	4	1	1	1	3	5	2	1	1	1	135	32	17.5583	66	78	0.846153846	1
376	12	1	6	2	3	6	4	5	2	1	4	9500	2375	2	1	2	1	1	4	2	1	2	4	5	3	3	1	1	160	40	15.625	68	79	0.860759494	1
377	19	1	5	1	2	2	4	5	1	1	3	2000	666.67	2	2	5	1	2	5	2	1	1	3	5	2	2	1	1	167	65	23.30668	74	86	0.860465116	1
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379	13	2	3	1	5	4	1	5	3	1	4	25000	6250	2	2	1	2	1	3	2	1	3	5	5	4	3	3	4	140	62	31.63265	84	86	0.976744186	2
380	16	1	4	1	3	3	2	5	2	1	3	15000	5000	2	1	2	2	1	3	2	1	3	5	5	3	2	3	2	140	45	22.95918	64	75	0.853333333	1
381	18	2	4	2	3	3	4	4	2	2	7	7000	1000	2	1	1	3	1	2	1	1	3		5	3	2	3	2	144	55	26.52392	64	78	0.820512821	2
382	19	1	5	1	1	3	3	5	2	1	3	6000	2000	2	2	5	1	1	4	2	2	1	3	5	3	1	2	1	168	62	21.96712	68	82	0.829268293	1
383	16	2	3	1	6	6	4	5	1	1	4	4600	1150	2	1	5	1	1	4	1	2	3	4	5	2	1	3	1	155	60	24.97399	64	76	0.842105263	2
384	13	1	3	2	3	3	4	5	1	1	4	8400	2100	2	2	3	1	1	4	2	2	2	3	5	2	1	2	1	157	55	22.31328	72	85	0.847058824	1
385	15	2	3	1	2	2	4	4	1	2	4	5500	1375	2	2	2	2	1	5	2	1	2	3	5	2	1	2	3	155	56	23.30905	74	86	0.8604	1
386	18	1	5	1	3	6	4	4	1	1	4	6000	1500	2	2	5	2	1	5	2	1	1	3	5	2	1	1	1	160	55	21.48438	66	84	0.785714286	1
387	14	1	4	2	5	4	2	2	3	1	4	14000	3500	2	2	3	2	1	3	2	1	3	4	5	3	2	4	3	140	55	28.06122	68	74	0.918918919	2
388	15	1	3	1	4	3	4	4	1	1	4	5000	1250	2	1	5	2	1	5	2	1	1	3	4	3	1	2	1	140	45	22.95918	64	78	0.820512821	1
389	17	2	4	1	3	6	4	5	3	1	4	12000	3000	2	2	5	1	1	3	2	2	4	5	3	2	4	2	2	144	42	20.25463	68	80	0.85	2
390	18	2	4	2	3	6	3	4	1	1	4	8500	2125	2	1	5	2	2	5	2	1	3	4	5	3	2	4	1	161	52	20.06095	70	85	0.823529412	1
391	12	1	3	2	5	4	2	5	1	2	5	14000	2800	2	2	4	1	2	5	2	1	1	3	5	2	2	4	1	156	55	22.60026	74	87	0.850574713	1
392	11	2	6	1	1	1	4	5	2	1	4	5000	1250	2	2	5	2	1	5	2	1	1	3	5	2	1	1	1	146	36	16.88872	68	82	0.829268293	1
393	12	2	6	1	3	6	4	5	1	2	6	7000	1166.7	2	2	5	2	1	5	2	1	2	4	5	2	2	1	1	150	40	17.77778	64	78	0.820512821	1
394	10	1	6	1	6	2	3	3	1	1	4	6000	1500	2	2	3	1	1	2	2	1	3	4	5	3	2	3	2	130	32	18.93491	64	75	0.853333333	2

395	12	2	6	2	4	5	3	2	1	1	3	15000	5000	2	2	5	2	2	5	2	1	1	4	5	3	2	3	2	145	36	17.12247	64	80	0.8	2
396	16	2	4	2	3	3	3	5	2	1	4	11000	2750	2	2	3	2	1	4	2	2	3	4	5	3	2	2	2	168	64	22.67574	70	86	0.813953488	1
397	13	2	6	1	6	6	3	5	2	1	4	6000	1500	2	1	5	2	1	5	2	2	1	4	5	3	1	1	1	138	36	18.90359	60	72	0.833333333	1
398	11	1	6	1	3	3	4	4	1	1	4	4000	1000	2	2	5	2	1	5	2	1	1	3	5	2	2	2	2	144	42	20.25463	64	76	0.842105263	1
399	13	2	3	2	5	4	4	5	3	1	3	25000	8333.3	2	2	2	1	2	4	2	1	2	4	5	3	1	4	2	152	49	20.99204	62	74	0.836734694	2
400	16	2	4	1	1	1	4	5	1	1	3	9000	3000	2	1	3	1	1	5	1	1	2	3	5	2	2	2	1	164	56	20.82094	75	88	0.852272727	1

ERRATA

1. Page no:1 :Last line , 6th word NFHS should be read as National Family Health Survey.
2. Page no:26 : Line no:7 should be read as George et al and Kavithasree et al , for George et al Reference no: should be read as 60
3. Page no:28. Fourth Paragraph , Line no:7 Reference no:68 should be read as 67.
4. Page no:30.First Paragraph , Line no:4 .Reference no:69 should be read as 68.
5. Page no:31. Last Paragraph ,Line no:3 ,8th word Anoop Misra et al Reference no should be read as 73.
6. Page no:76 .Last Paragraph .Line no:1 7th word should be read as Overweight and Obesity.